



# CLINICAL DERMATOLOGY



# *Clinical Dermatology*

For Students and Practitioners

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BALTIMORE

1959

THE WILLIAMS & WILKINS COMPANY



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The Williams & Wilkins Company  
*Made in the United States of America*

Library of Congress  
Catalog Card Number  
59-412

*Composed and Printed at the*  
WAVIERLY PRINTING CO.  
Baltimore 2, MARYLAND

*To our former teachers*

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## FOREWORD

So frequently in medical practice the first clue to the nature of the underlying disease may be derived from proper inspection and interpretation of the cutaneous manifestation. The skin, as one of the body tissues, is subject to the same physiologic and pathologic stresses and alterations observed in other vital organs. Characteristic morphologic dermatologic abnormalities which are readily accessible to analysis by biopsy may clarify the nature of puzzling disorders such as connective tissue, metabolic, infectious, neoplastic and degenerative diseases. Regional pigmentation may indicate the adrenal cortex, and characteristic telangiectases may direct attention to the liver or to the cause of abnormal intestinal bleeding. Specific microorganisms such as *Brucella intracellulans* may be detected in petechial lesions within minutes after their appearance. The punch biopsy must give a full understanding of specific skin disorders as well as an awareness of the dermal abnormalities which represent only one facet of underlying disease.

This new text on clinical dermatology provides an opportunity to welcome a monograph devoted to the clinical manifestations of skin disease and the underlying anatomic and pathologic alterations. The authors, drawing from their vast clinical experience, have prepared a text which is suited ideally as a primer in dermatologic diagnosis for the medical student primarily. Moreover, the seasoned internist will find much helpful infor-

mation, particularly from the illustrations, which demonstrate vividly the dermatologic manifestations that are frequently a sequel to underlying abnormalities. The technique of conducting a comprehensive history and physical examination is emphasized and the physician confronted with a skin problem is given a proper guide for a comprehensive diagnosis.

There are many helpful aids in the form of charts and tables designed to simplify differential diagnoses, methods of laboratory detection and management. Much clinical data is tabulated which is valuable for the beginner. Concise clinical descriptions of specific skin diseases provide full coverage including definitive comments on etiologic factors as they are understood currently. A useful glossary of treatment aids is provided. Simplified techniques for skin biopsy and for microscopic and cultural detection of mycotic agents are valuable contributions.

Congratulations are due the authors for their monograph which is readable and assembles pertinent information necessary for precise dermatologic diagnoses. The skin is placed in its proper perspective as a unit of the whole system and not as an isolated part.

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## PREFACE

Morphologic dermatology was taught effectively at the University of Maryland School of Medicine for many years under the supervision of Dr. Harry M. Robinson, Sr. The present members of the staff of the Division of Dermatology have collaborated in the writing of this text in order to carry on this tradition.

During World War II there was a rebirth of interest in dermatology. It became apparent to those interested in this field that a dermatologist must not be solely dependent on a casual visual examination but must study the entire patient in order to arrive at a definite diagnosis. The dermatologist should not be content with the clinical impression afforded by morphologic skin changes but through experience gained by years of study and practice must correlate laboratory findings and clinical symptoms.

The skin is not only a protective covering but is a functioning organ which has nervous, vascular, and hormonal communications with the viscera, central nervous system, and the vascular system. It is the largest organ in the human body and frequently reflects disturbances in normal physiologic functions, or pathologic changes elsewhere in the body.

The art of diagnosis applied to dermatology requires careful, patient inspection by the examining physician and a detailed record of abnormal findings. The major portion of the book is devoted to a discussion of the morphologic appearances of the more common dermatoses, methods of diagnosis, the relationship of cutaneous lesions to systemic disease, and suggestions for treatment. Brief mention is made of the more uncommon dermatoses.

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The authors are indebted to the following members of the Department of Art of the University of Maryland, School of Medicine: Mr. Thomas M. McCremon, who prepared the diagrams; and Mr. Guenter W. Sonntag, Mr. Robert Turriero, and Mrs. Susan E. Wilson, who assisted in the preparation of the photographic

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PART I

*General Considerations*



# Chapter 1

## ANATOMY OF SKIN

The skin is the largest organ in the human body and completely envelops all other anatomic structures. At the mucocutaneous orifices it becomes continuous with mucous membranes through transitional epithelium. Its complicated structure contains blood and lymph vessels, nerve and specialized dermal appendages. It is thickest on the palms and soles and thinnest on the eyelids. Dermal appendages are specially distributed to meet the needs of the area. The palms and soles contain eccrine sweat glands but no sebaceous glands, whereas the axillae and genital area contain a predominance of apocrine sweat glands. The face, scalp and upper back are rich in sebaceous glands.

Histologically the skin is divided into three layers: the epidermis (the outermost layer), the corium (true skin) and the subcutaneous tissue (fatty layer).

**Epidermis.** The epidermis consists of four strata.

1. The basal layer or *stratum germinatum*. This is the innermost layer of the epidermis and consists of a single layer of columnar cells, arranged perpendicularly to the surface. All of the other layers of the epidermis are formed from these cells which undergo morphologic and nuclear changes as they progress toward the most superficial layer. As long as this layer of cells remains intact the epidermis will regenerate without scar formation.

2. The *stratum granulosum*

3. The *stratum lucidum*

4. The *stratum corneum*. The stratum corneum is the outermost layer of the epidermis and is formed of keratinized cells in which the nuclei are not normally present.

**Dermis.** The dermis or true skin is collagenous tissue which contains white and yellow elastic fibers. It is divided into the papillary portion

(closest to the epidermis) and the reticular portion which lies between the papillary portion and the subcutaneous tissue. The capillary loops in the papillary bodies (ridges of the corium in apposition to the basal layer of the epidermis) join the larger blood vessels in the reticular portion, and these graduate into large arteries and veins in the subcutaneous tissue. Nerves, sweat glands, and sebaceous glands are found in the corium.

**Subcutaneous tissue.** This layer of the skin consists of fat cells in a fibrous tissue stroma. Large arteries, veins, lymphatics and nerve trunks are found in this layer. Some sweat glands also extend into the subcutaneous tissue. The subcutaneous tissue varies in thickness in different parts of the body.

**Appendages.** The appendages of the skin are hair, nails, sebaceous glands, sweat glands, and mammary glands.

**Nail.** The nail plate arises from the proximal nail fold and is adherent to the nail bed. It grows continuously at the rate of approximately 1.0 mm. a week unless inhibited by some pathological process. The nail plate is composed of hard keratin.

**Hair.** The hair arises from a papilla located in the lowermost portion of the hair follicle. The portion of the hair contained within the follicle is known as the root. The lowermost portion of the hair root arising from the papilla is known as the hair bulb. The hair shaft is the portion extending from the opening of the follicle. It grows at the rate of about 3.0 mm. a week. There are two general types of hair: (1) the fine lightly pigmented type (lanugo) and (2) the coarse pigmented terminal hairs.

**Sebaceous gland.** Sebaceous glands, classified as holocrine glands, arise from follicle walls



## Chapter 2

# PHYSIOLOGIC AND CHEMICAL FUNCTIONS OF THE SKIN

The skin, the largest organ of the human body weighs from 6 to 18 per cent of the total body weight. The surface area of an adult's skin, which approximates two square yards, is increased by an ingrowth of the hair follicles. This large surface offers a passage for percutaneous absorption of many topically applied substances. The permeability of the integument is important in pharmacology, toxicology, physiology, and clinical dermatology. The skin is the external sheath which protects man from his environment. The sensory nerve endings of the skin transmit pain, touch, temperature changes, and other signals.

### PRINCIPAL FUNCTIONS OF THE SKIN

#### Protection

The skin is the elastic, resistant covering organ which serves to protect man from the complex environment in which he lives. It prevents the passage of harmful physical and chemical agents and inhibits excessive loss of water and essential electrolytes.

#### Thermoregulatory Function

Heat is lost from the body by conduction, convection, radiation, and evaporation. The relative importance of these mechanisms varies with such external conditions as temperature, humidity, clothing, and movement of air.

**Conduction.** The poorest conducting layers of the skin are the horny layer and the adipose tissue. The corium is a better heat conductor than either the epidermis or the fatty layer and tends to equalize the temperature differences between these two.

**Convection.** This is a constant source of heat loss. The thin layer of air in direct contact with

the skin warms up rapidly and is replaced by cool and dry air. At air temperatures higher than 90°F, the heat loss by convection is negligible. The convection effect increases with movement of the air.

**Evaporation.** Water loss from the skin has been divided into two categories: (1) Insensible water loss, frequently referred to as insensible perspiration, and (2) Visible water loss, the active secretion of the eccrine sweat glands, commonly referred to as sweat or perspiration.

**Radiation heat loss.** This varies with different individuals and with different postures.

#### Sensation

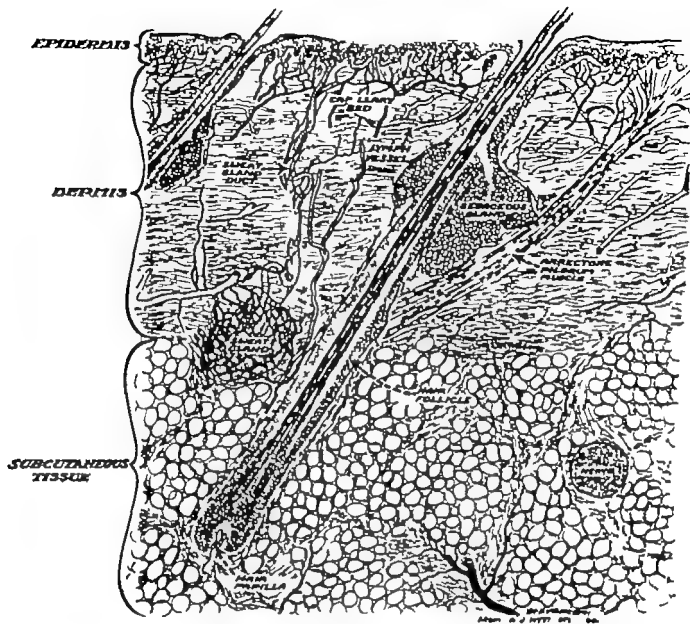
The four basic sensations of pain, temperature, touch, and pressure are perceived in the skin. Modifications of these basic sensations are: (1) hot sensation, which results from simultaneous stimulation of the end organs for warmth and cold; (2) the sense of vibration; and (3) tickling and itching, which are mediated by pain fibers. The ability to discriminate between sensation is a result of the pattern presented to the cerebral cortex.

Receptors		Sensations	
Merkel's corpuscles		Touch	Pressure
Merkel's disc (round hair follicles)		Touch	Pressure
Ruffini ending		Heat	
Krause end bulbs		Cold	
Free nerve endings		Pain	
Pacinian corpuscles	Golgi-Mazzoni corpuscles		Pressure

#### Secretory Mechanism

The skin plays a minor role in the excretory functions of the body. Sebaceous glands, secreted by the sebaceous glands, has some antifungal and anti-





### NORMAL SKIN ANATOMY

FIG. 1 Diagram of normal skin anatomy.

These structures produce sebum, the substance primarily responsible for lubrication of the skin surface. This oily material is emptied on to the skin through the follicle orifice. Each gland has a rich vascular supply.

**Sweat gland.** Sweat gland (oil gland) are of two types: (1) apocrine sweat gland and (2) eccrine sweat gland.

**Apocrine sweat glands.** These are located in the axillae, the areolae of the nipples, about the umbilicus, the perianal region and the genital region. The mammary gland is formed from a group of apocrine glands for specialized function.

The maturation of apocrine glands is dependent on hormonal activity. These glands do not function until puberty.

**Eccrine sweat glands.** These cool glands have as their primary function the elimination of fluid and nitrogenous waste products. Each gland is surrounded by a rich capillary and nervous supply.

**Muscles of skin.** Arrector pili muscles are bundles of smooth muscle fibers attached to hair follicles. When these contract the skin has the so-called "goose-skin" (cutaneous) appearance. Striated muscles in the skin are limited to the face and neck.

**Thyroid** The role of the thyroid in the production or control of pigmentation in the mammal is questionable.

**Adrenal glands.** The adrenal glands are the most important endocrine glands in the control of pigmentation in the mammal because of the inhibitory or balance effect on the production of MSH from the pituitary. If the adrenals are hypofunctional or nonfunctioning as in Addison's disease, MSH is produced in large quantities and abnormal pigmentation results.

**Sex glands.** Gonadal secretions promote pigment formation.

### SEBACEOUS SECRETION

The substance which forms the "surface film" of the body is derived from sweat, sebum, and desquamating epidermal cells. Sweat may be obtained in its pure form. The amount of sebum secreted is usually 1 or 2 gm. per day for the entire body.

**Distribution.** The sebaceous glands are holocrine glands which usually develop by the fifth fetal month. They are distributed over the entire skin surface except the palms and soles. These glands are most numerous on the scalp, forehead, nose, cheeks and chin, and are also abundant on the chest and shoulders. Modified sebaceous glands on the penis produce smegma and in the ear canals produce wax. The Meibomian glands of the eyelids are also variants of these glands. The mammary glands are variants of apocrine glands, not sebaceous glands.

**Factors influencing sebum production.** The two most important factors controlling the

production of sebum are the atmospheric temperature and hormonal factors. There is no direct nerve control.

Sebum is a fluid or semisolid oily material which is deposited on the skin surface. When the external temperature increases, the viscosity of sebum decreases and the rate of flow is increased. Hormones play an important role in the production of sebum. Testosterone and progesterone are potent sebaceous gland stimulants.

Sebum is composed of waxes, triglycerides, cholesterol and squalene.

### CHEMISTRY OF THE CORIUM

The corium is composed of collagen, reticulum, elastin and ground substance. These substances, like keratin, belong to the albuminoids and are composed of long chains of amino acids joined together by a peptide linkage.

The most important amino acid in collagen is glycine. Collagen is attacked by pepsin but is resistant to trypsin. Collagen fibers when heated become rubbery and contract.

**Reticulum.** Reticulum is immature collagen formed by fibroblasts. Elastic fibers comprise only a small percentage of the corium and can be differentiated from collagen fibers by their resistance to pepsin, boiling water and boiling dilute acids. Elastic tissue is an incomplete protein which lacks many of the essential amino acids.

**Ground substance.** This is an organized network of protein molecules filled with hyaluronic acid, a mucopolysaccharide which contains hexosamine, glucosamine, uronic acid, and acetyl groups.

bacterial properties and also plays a role in maintaining the texture of the skin.

Sweat is a true secretion. Chart 1 compares the concentrations of electrolytes in blood plasma and sweat.

CHART 1

	Blood plasma		Sweat	
	mEq/L	gm. %	mEq/L	gm. %
Na	130	0.33	10-102	0.05-0.23
Cl	103	0.36	8-100	0.02-0.35
K	4	0.018	4-11	0.015-0.045
Urea (as urea nitrogen)	—	0.012	—	0.03
Lactate	—	0.023	—	0.07-0.30

### Percutaneous Absorption

The skin is the armor protecting the deeper tissues from trauma and desiccation. The oily surface film makes the skin water repellent. The constant desquamation of the horny layer retards the inward movement of materials which come in contact with the skin. The skin is permeable however and may be envisaged as a sieve-like membrane in which the numerous follicular orifices are channels for absorption. The stratum corneum plays a minor role as a barrier to absorption and hyperkeratosis does not retard transfer rates. The actual barrier to nearly all substances consists of the stratum lucidum and stratum granulosum. The appendages, especially the pilosebaceous apparatus, account for the major part of absorption since they do not contain these impermeable strata. The epidermis is not supplied with blood vessels but the upper dermis has both a rich capillary bed and lymphatic drainage and therefore material which penetrates into the corium are absorbed.

All substances which pass through normal human skin are soluble in fat or water. Vehicles such as ointments or solvents may act as either transport system or simply bring the active ingredient in contact with the skin.

Experimental evidence indicates that normal intact human skin is usually impermeable to water, electrolytes, carbohydrates, fat and protein, however all true gases and many

vaporized or volatile substances will pass through the epidermis.

Mercury, lead, copper, arsenic and bi-muth penetrate the skin under certain conditions, and sex hormones are readily absorbed when applied in a solvent vehicle.

### Keratinization Process

Keratinization is the most important function of epidermal cells. It is the process of transformation of living epithelial cells into a horny substance called keratin.

The basic change takes place in the globular protein particles of the epidermal cell which are transformed through a process of oxidation, dehydration and loss of cellular structure. Thus cell death occurs continuously during the physiologic transformation of prickle cells into the cells of the stratum corneum.

Hair growth is also a part of the keratinization process but it varies in different regions of the body. It is most rapid on the chin (0.38 mm per day), less on the scalp (0.35 mm per day), axilla (0.30 mm per day), thigh (0.20 mm per day) and eyebrow (0.16 mm per day). The growth is more rapid in summer than in winter. After the third decade the rate of growth declines slightly.

### Pigmentation

Pigmentation is of genetic origin. Hyperpigmentation is produced by trauma, irradiation, exposure to the elements, or inflammation.

The formation of pigment Tyrosine is believed to be the pigment precursor from which the normal skin pigment develops. It is probably formed from the essential amino acid phenylalanine. Tyrosine is first oxidized to DOPA (dihydroxyphenylalanine) by the enzyme tyrosinase. DOPA is then transformed through a series of oxidation and reduction reactions to an indole compound, hallechrome red, polymerization of which forms melanin.

### Pigmentation and hormones

**Pituitary gland.** The hypophysis influences pigmentation by its control over the endocrine gland and through the production of the anterior pituitary lobe of the melanocyte stimulating hormone (MSH).

**Thyroid** The role of the thyroid in the production or control of pigmentation in the mammal is questionable.

**Adrenal glands** The adrenal glands are the most important endocrine glands in the control of pigmentation in the mammal because of the inhibitory or balance effect on the production of MSH from the pituitary. If the adrenals are hyposecretory or nonfunctioning, as in Addison's disease MSH is produced in large quantities and abnormal pigmentation results.

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## Chapter 3

# ETIOLOGY OF DERMATOSES

Etiology is the science of investigation of the causes of disease. As the knowledge of pathologic physiology increases it becomes more obvious that etiology and diagnosis are inseparable. The practitioner must make every effort to understand the nature of a condition to discover its cause, and thereby establish the correct diagnosis. When the cause of an eruption has been determined some rational form of therapy may be devised but when the etiologic agent is obscure the physician must resort to the use of empiric measures.

A multiplicity of factors may combine to produce an eruption. Eczema (atopic dermatitis, lichenified dermatitis, lichen simplex chronicus, neurodermatitis) may have been caused originally by some endogenous or exogenous sensitizing substance; however the ultimate picture is caused by a combination of endogenous factors, exogenous factors and emotional stimuli. This syndrome may be complicated further by superimposed pyogenic infection produced by local inoculation (scratching).

The etiology of dermatoses is divided into precipitating causes (those factors actually causing the disease or pathologic state) and predisposing causes (nonspecific factors which contribute to the development of an eruption).

### PREDISPOSING CAUSES

Predisposing causes are those factors which lower the resistance or increase the susceptibility of the skin to attack. Many eruptions are secondary manifestations of some internal disorder.

**Age.** Some eruptions develop only at certain periods of life. Ichthyosis, impetigo neonatorum and epidermolysis bullosa appear in infancy. Verruca vulgaris, impetigo contagiosa, ecthyma and tinea capitis are primarily diseases of childhood.

The adolescent boy or girl is prone to develop acne vulgaris, seborrheic oleosis and proriasis. Kruurosis vulvae, carcinoma and senile keratosis are conditions commonly seen in the aged.

**Sex.** Lupus erythematosus, chloasma, Paget's disease of the nipple and herpes gestationis occur most commonly in the female, whereas epitheliomas, seborrheic keratosis, rosacea and occupational dermatoses occur more commonly in the male.

**Race.** The importance of race as a predisposing factor in the cause of disease has decreased in the past three decades. Because of an intermingling of peoples of all races and nationalities, pure racial characteristics have been greatly diluted. It is not true that pemphigus vulgaris is a disease limited to the Jewish race or that proriasis and epitheliomas do not occur in the Negro. It is true however that persons of Negro extraction are prone to develop keloid, acne keloid, dermatosis papulosa nigra and granuloma inguinale.

**Heredity.** Ichthyosis, trichoeplithelioma, psoriasis and keratosis palmari et plantari are familial conditions. There is a definite hereditary tendency to the development of the hay fever, asthma-eczema syndrome.

**Seasonal.** Miliaria rubra, erythema solare, larva migrans and insect bites are most commonly seen during the summer months. Cold weather produces or aggravates conditions such as ichthyosis, proriasis, and winter eczema.

**Occupation.** An occupational dermatosis may be defined as an eruption produced by a substance or substances encountered by the patient during the course of his work. A previously existing eruption aggravated by working conditions is also considered by some industrial accident compensation as a compensable occupational disease.

**Organic diseases.** Erythema nodosum purpura tuberculosa cutis atropes eczema xanthomata, furunculosis, urticaria pigmentosa erythema multiforme pseudoranthoma elasticum, and many other lesions are cutaneous manifestations of systemic diseases.

#### PRECIPITATING CAUSES

**Trauma** Trauma inflicted by physical violence chemical burns, sunlight, heat and physical therapy may be productive of an eruption. Externally produced injury is frequently a means of introducing pathogenic microorganisms into the skin.

**Animal parasites** These frequently cause skin eruptions which have characteristic morphologic features.

*Pediculus capitis*, *Pediculus pubis*, and *Periplaneta corporis* (Fig. 2) are insect which bite and suck blood but do not inject a foreign substance. The body louse (*P. corporis*) transmits epidemic typhus, trench fever and other infections through its fecal matter.

*Cimex lectularius* (bed bug) makes its home in crevices of furniture and uses the human body for feeding purposes. A transitory wheal develops following the bite (probably caused by an irritating substance injected by the insect). The lesions are extensive and heavily crusted. Secondary pyrogenic infection frequently develops.

*Pulex irritans* (flea) is one of the more common causes of papular urticaria in children. The lesions are small papules or vesicopapules. Intense

itching occurs because of the irritating substance injected by the insect. Fleas transmit endemic typhus, bubonic plague and other infections.

*Tunga penetrans* (chigger) is a flea. The female of the species burrows into the skin producing a large papule with a central puncture blocked by a portion of the body of the parasite. Extensive secondary infection and gangrene may result from chigger infestation. The condition which is limited to tropical America, primarily involves the feet.

*Impetigo brasiliensis* and *Gastrophilus hemoroidalis* cause "creeping eruptions" called larva migrans. The larvae of the insects produce a continuous red, tortuous thread like burrow in the skin marking their line of migration just beneath the stratum corneum.

*Indomela histolytica* may produce cutaneous involvement by extension or inoculation. An amebic dermatitis may develop in the skin following a surgical procedure on a visceral abscess. Extension of rectal disease onto the skin about the anus may produce extensive ulcers or furuncles. Amebic ulcers in the skin are irregular purulent lesions with undermined ragged edges. The organisms may be recovered from the ulcers.

*Trichinella spiralis* causes cutaneous lesions resembling erythema multiforme "ice pot" or scarlatiniform erythema. Edema of the eyelids, petechiae and urticaria are also common findings.

*Onchocerca bancrofti* causes human filariasis, a tropical disease. The scrotum, breast and lower



FIG. 2. *Pediculus capitis* (head louse) and ovum.

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# ETIOLOGY OF DERMATOSES

Etiology is the science of investigation of the causes of disease. As the knowledge of pathologic physiology increases it becomes more obvious that etiology and diagnosis are inseparable. The practitioner must make every effort to understand the nature of a condition to discover its cause, and thereby establish the correct diagnosis. When the cause of an eruption has been determined some rational form of therapy may be devised but when the etiologic agent is obscure the physician must resort to the use of empiric measures.

A multiplicity of factors may combine to produce an eruption. Eczema (atopic dermatitis), lichenified dermatitis, lichen simplex chronicus, neurodermatitis may have been caused originally by some endogenous or exogenous sensitizing substance; however the ultimate picture is caused by a combination of endogenous factors, exogenous factors and emotional stimuli. This syndrome may be complicated further by superimposed pyogenic infection produced by local inoculation (scratching).

The etiology of dermatoses is divided into precipitating causes (those factors actually causing the disease or pathologic state) and predisposing causes (non specific factors which contribute to the development of an eruption).

### PREDISPOSING CAUSES

Predisposing causes are those factors which lower the resistance, thus cause the susceptibility of the skin to attack. Many eruptions are secondary manifestations of some internal disorder.

Age. Some eruptions develop only at certain periods of life. Ichthyosis, impetigo, nummular and epidermolysis bullosa appear in infancy. Acne vulgaris, impetigo contagiosa, thymoma and tinea capitis are primarily diseases of childhood.

The adolescent boy or girl is prone to develop acne vulgaris, seborrhea oleosa, and psoriasis. Kraurosis vulvae, carcinoma and senile keratoses are conditions commonly seen in the aged.

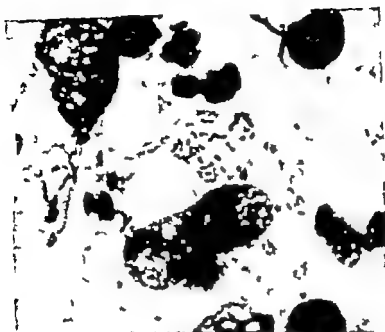
Sex. Lupus erythematosus, chloasma, Paget's disease of the nipple and herpes gestationis occur most commonly in the female whereas epithelioma, seborrheic keratoses, rosacea and occupational dermatoses occur more commonly in the male.

Race. The importance of race as a predisposing factor in the cause of disease has decreased in the past three decades. Because of an intermingling of peoples of all races and nationalities pure racial characteristics have been greatly diluted. It is not true that pemphigus vulgaris is a disease limited to the Jewish race or that psoriasis and epitheliomas do not occur in the Negro. It is true however that persons of Negro extraction are prone to develop keloid, acne keloid, dermatosis papulosa nigra and granuloma inguinale.

Heredity. Ichthyosis, trichopathioma, psoriasis and keratosis palmaris et plantaris are familial conditions. There is a definite hereditary tendency to the development of the Hay fever or rhinitis-sinusitis syndrome.

Seasonal. Milium rubra, erythema solare, larva migrans and insect bites are most commonly seen during the summer months. Cold weather produces or aggravates conditions such as ichthyosis, psoriasis and winter eczema.

Occupation. An occupational dermatitis may be defined as an eruption produced by a substance or substances encountered by the patient during the course of his work. A previously existing eruption aggravated by working conditions is also considered by state industrial accident commissions as a compensable occupational disease.

F. 4. *Dansonia granuloma*

minor abrasion or tick bite. The tularemic chancre frequently develops about the fingers and hands. Following this, regional lymph nodes become involved. Many different types of cutaneous lesions may complicate the systemic picture of this disease.

*Hemophilus ducreyi* is the Gram-negative bacillus which causes chancroid. This condition is described in the chapter on Venereal Diseases.

*Corynebacterium diphtheriae* causes diphtheria. Diphtheria of the skin usually complicates a pre-existing eruption. During the war years it was commonly seen complicating ecthyma, epidermophytosis, and eczematous eruptions.

*Mycobacterium tuberculosis* causes tuberculosis. The cutaneous lesions of tuberculosis may be primary or secondary. Localized lesions may develop and become progressive in the absence of adequate immunity. The patient with miliary tuberculosis may develop hematogenous spread involving the skin. Tuberculous are cutaneous manifestations of sensitivity to the tubercle bacillus.

*Mycobacterium leproi* is the organism which causes leprosy.

*Dansonia granulomatis* is the encapsulated bacterium which causes granuloma inguinale (Fig. 4). This condition is discussed in the chapter on Venereal Diseases.

*Treponema pertenax* is the spirochete which causes yaws, a tropical disease.

*Treponema pallidum* is the spirochete which causes syphilis. This is discussed in the chapter on Venereal Diseases.



F. 5. Direct microscopic examination (from case of epidermophytosis) (ink potassium hydroxide)



extremities may develop elephantiasis. Lymphadenitis and funiculitis also occur.

*Latrodectus mactans*, the black widow spider produces a painful edematous lesion which may also be purpuric. Systemic symptoms, including tremors, numbness, vomiting and general malaise, are frequently violent. Fatalities are rare.

Tick bites may produce cutaneous nodules which do not resolve when the acute inflammatory reaction subsides. In this country *Dermacentor andersoni* and *Dermacentor variabilis* are vectors of Rocky Mountain spotted fever and tularemia.

*Sarcoptes scabiei* (itch mite) (Fig 3) The female of the species burrows under the skin and deposits eggs and fecal matter. The male usually lives on the skin or under the epidermis outside the burrows. This contagious disease has diminished in incidence during the past 10 years.

*Podiculoides ventricosus* (grain-itch mite) attacks people who work with grain. It produces papular or papulovesicular urticaria with intense itching and sometimes fever.

*Trombicula irritans* is the common American chigger. Only the larvae of these mites are parasitic. The adult mite lives on woody decaying substances. During the summer months they are commonly found in the grass bushes and fields.



FIG 3 *Sarcoptes scabiei* in vineyard top (stained with ink potassium hydroxide)

The lesions produced are hemorrhagic papules. Itching is intense.

*Euproctus cryorrhoea* (larva of the brown-tail moth) causes caterpillar dermatitis, common in Massachusetts and other parts of New England. The pruritic, erythematous dermatitis and urticaria are caused by the netting hair of the caterpillars.

Culicidae (mosquitoes) have numerous species and produce itching urticarial lesions caused by the injection of venom. Some patients develop severe generalized allergic reactions to mosquito bites.

Hymenoptera include bees, hornets, wasps, and some members of the family of ants. These insects may produce prolonged urticaria and serious systemic illness because of the venom injected.

**Viruses** Viruses are organized living bodies which are not visible under the ordinary microscope. They may be cultured on tissue culture media but not on any type of cell-free medium. Viruses must live within a cell and although they are microorganisms they differ from bacteria in important and characteristic ways.

Smallpox, alastrum, muller's nodes, varicella, rubella, rubella, herpes simplex, herpes zoster, herpes, varicelliform eruption, warts of all types, molluscum contagiosum, lymphogranuloma venereum, and cat scratch disease are among the many dermatoses caused by viruses.

**Rickettsiae** Unlike viruses, these intracellular parasites are visible with standard microscopic techniques. Epidemic typhus, murine typhus, Rocky Mountain spotted fever, rat-bite dermatitis, and rickettsial pox are caused by specific rickettsiae.

#### Bacterial Infection

**Staphylococci** infections include impetigo, contagiosa, furuncles and carbuncles, cellulitis, folliculitis and secondary pyogenic infection of eczematous eruptions.

**Streptococci** infections include secondary pyogenic infection of previously existing dermatoses, impetigo contagiosa, erythema erysipelas, scarlet fever, gangrenous balanitis, and other dermatoses.

*Frysipellohr rhinopathiae* causes erysipeloid. *Pasteurella tularensis* causes tularemia. The organism usually enters the body through a

## Chapter 4

# DIAGNOSTIC PROCEDURES

A combination of history, physical examination, and judicious use of laboratory procedures is necessary to make a dermatologic diagnosis. The examiner must be a competent observer having a thorough knowledge of subjective and objective symptoms. In many instances the impression gained from physical examination contradicts the history obtained from the patient. A systematic method of examination is essential.

### MEDICAL HISTORY

The history should be obtained with the same care used in obtaining information from a patient with a systemic disease. Poorly organized interrogation seldom elicits the necessary information. Occupational diseases, allergic dermatoses, infectious diseases, psychogenic disorders and constitutional diseases require different types of questions.

**Subjective symptoms** are disturbances of sensory perception which are not seen or felt by the examinee. These are itching, burning, pain, formication, tingling, hyperesthesia, anesthesia, and paresthesia. These symptoms vary in degree and intensity with the individual patient. The emotional stability of the patient must be considered in the evaluation of such complaints. A psychotic person who has delusions of parasitosis may have intense itching even though no parasites are present, whereas a phlegmatic individual with scabies may complain of only slight discomfort.

After the routine medical history has been obtained, the following specific questions regarding dermatoses are suggested:

How long has the eruption been present?

Has anyone else in the family had similar condition?

Have there been previous attacks of this or similar eruptions?

Has medicine been administered by mouth or by injection recently?

What medications have been used to relieve symptoms: have headache remedies or laxatives been taken?

Have x-ray or other light treatment for this or other conditions ever been given?

What brand and type of cosmetics are used?

What type of work is done? How long has it been done?

What are the hobbies?

Are working conditions pleasant?

Do the working conditions aggravate the eruption?

Does soap aggravate the eruption?

Is the condition worse in summer or winter?

What are the sleeping habits?

What are the smoking habits?

What are the whiskey drinking habits?

What are the coffee drinking habits?

Do any foods seem to cause the skin to "break out"?

Are domestic relationships pleasant?

### PHYSICAL EXAMINATION

As part of the general examination the practitioner should consider the past manner of speech, presence or absence of tremors, and the general color and tone of the skin. The examiner should attempt to estimate the patient's physical age by considering the condition of the hair, elasticity and general condition of the skin, and the presence or absence of arcus senilis. A complete physical examination is desirable. Careful scrutiny of the disrobed patient in good light is essential. Daylight is the most satisfactory source

**Fungi** The mycoses, both superficial and deep are caused by fungi. The superficial mycoses include *tinca capitis*, *epidermophytosis* (Fig. 5) *tinca versicolor* and other cutaneous lesions which do not have systemic manifestations. Among the deep mycoses are *histoplasmosis*, *blastomycosis*, *coccidioidomycosis* and *sporotrichosis*. These conditions are discussed in more detail in the chapter on Mycology.

**Metabolic disorders** The dermatoses attributable to metabolic disorders include the *van thorn's*, *Addison's disease*, *acanthosis nigricans*, *gout*, *amylodosis*, *hemochromatosis*, *calcinosis*, *porphyria*, *pellagra* and endocrine disturbances.

**Allergy** Endogenous allergic reactions are attributable to the existence of a state of specific hypersensitivity to some injected, ingested or inhaled substance. The clinical manifestations vary and include such morphologic lesions as *purpura*, *erythema multiforme*, *urticaria*, *exfoliative dermatitis*, and *scarlatiniform eruptions*. Exogenous causes of allergic reactions include a large variety of substances which come in contact with the skin and to which a patient may become sensitized.

**Congenital abnormalities** These include *ichthyosis*, *nevi*, *congenital ectodermal defect*, *epidermolysis bullosa*, *polydactylism*, *mongolian spots* and disturbances of growth.

**Vascular lesions** Those which produce skin

changes include *embolism*, *thrombosis*, *arteritis*, *phlebitis*, *arteriosclerosis*, and *angiospasm*.

**Hematopoietic disorders** These disorders productive of eruptions include *lymphosarcoma*, *Hodgkin's disease*, *lymphatic or myeloid leukemia*, and *monocytic leukemia*. The skin lesions include *petechiae*, *pigmentation*, *stomatitis*, *herpes zoster*, *furunculosis*, *lichenified dermatitis* and *urticaria*.

**Emotional disturbances** These are capable of producing or aggravating dermatoses. *Psychogenic stimuli* produce *neurotic excoriations*, *factitious dermatitis*, *trichotillomania*, *pruritus ani* and *pruritus vulvae*, *delusions of parasitosis* and other conditions. Chronic dermatoses such as *eczema*, *dermatitis herpetiformis*, and *psoriasis* are frequently aggravated by psychogenic stimuli.

**Neoplastic diseases** These include *epitheliomas* (*basal cell*, *squamous cell* and *transitional*), *sarcoma* of the skin, *multiple hemorrhagic sarcoma* of *Kaposi*, *lymphoblastomas*, *melanomas*, *metastatic malignancies* in the skin, *eosinophilic granulomas*, and other malignant and nonmalignant tumors.

**Dermatoses of undetermined origin** These include *granuloma annulare*, *scleroderma*, *lichen sclerosus et atrophicus*, *psoriasis pityriasis rubra pilaris*, *lupus erythematosus*, *periphiga vulgaris*, *pseudoxanthoma elasticum* and many other conditions.

vitamin deficiencies and occur in radial arrangement at mucocutaneous orifices (e.g. commissures of lips)

Scars represent healing of a wound or ulcer by fibrous tissue. Atrophic scars, observed in discoid lupus erythematosus and other conditions develop without preceding ulceration.

*Depigmentation or hypopigmentation* may develop following an inflammatory reaction.

*Ulcers* are localized circumscribed disruptions in the continuity of the skin extending below the basal layer. Ulcers heal with scar formation.

*in crumens* is a superficial denudation of the skin.

*Configurations* Configurations of lesions are frequently of great importance in establishing a morphologic diagnosis.

*Annular lesions* are ringed lesions in which the periphery and central portion differ in appearance. There are 14 relatively common dermatoses in which annular lesions may appear.

*Lamellicated lesions* are those which have a central depression. They are commonly seen in molluscum contagiosum, lichen planus, and varicella.

*Serpiginous lesions* have undulating margins. The areiform border is formed of several lesions which have become confluent. This phenomenon is observed in psoriasis, nodular scurpiginous syphilis and other conditions.

A *discrete lesion* is one which is isolated. They may be small, large, single or multiple.

A *confluent lesion* is composed of several smaller lesions which have coalesced.

An *iris lesion* composed of multiple concentric rings, is commonly seen in erythema multiforme. It is also called a "target lesion."

*Linear groups* of lesions is characteristic of dermatitis herpetiformis, nevus unguis lateralis, lichen planus, lichen urticatus, and verruca plana juvenilis. This phenomenon may also be observed in psoriasis.

*Characteristic groups of vesicles* occur in herpes simplex, herpes zoster, dermatitis herpetiformis, and dermatitis venenata.

A *perforated lesion* is one in which the base is smaller than the body of the lesion.

A *sessile lesion* slopes into the normal skin and has a broad base.

A *nummular lesion* is flat-topped, circinate, and elevated (coin shaped).

## LABORATORY AIDS IN DIAGNOSIS

### Biopsy

The histopathologic picture of many dermatoses is not specific and it is important that the clinician recognize the limitation of biopsy as an aid in diagnosis. Great care and judgment should be exercised in the selection of the lesion to be examined. Biopsy is an essential diagnostic procedure in many patients with acute or chronic dermatoses pigmented and removal surgically and in all lesions in which a malignant change is suspected. The biopsy specimen should be studied by someone who is experienced in interpreting dermal histopathology.

Several methods may be used for the removal of a skin specimen for study.

1. A simple method of excision has been described by Dr. F. A. Ellis (Fig. 7). Procaine solution (1.0 per cent) is injected around and under the area to be excised. The specimen is transfixed by the hypodermic needle used in infiltrating the skin with procaine. The section of tissue is removed to the depth of the subcutaneous tissue (at least 2 to 3 mm) by making an incision on either side of the transfixing needle. The biopsy wound is closed with sufficient sutures to insure a good cosmetic result.

2. Dermal biopsy punches vary in size from 2 to 8 mm. in diameter. The area to be biopsied is infiltrated with procaine solution (1.0 per cent). The biopsy punch is pressed into the lesion by a circular motion to the depth of the subcutaneous tissue. The specimen is grasped by forceps, and freed with scissors. Although this is a rapid method of obtaining tissue the elliptical excision described in the preceding paragraph is preferred by the author.

3. A rotary biopsy punch using a hand motor tool may be used for the removal of tissue specimens but is primarily of value in research.

In performing a biopsy care should be taken to avoid squeezing the tissue with forceps. Any

of illumination. A daylight electric bulb is satisfactory but light produced by the ordinary incandescent bulb or fluorescent tube distorts color and may alter the appearance of objective symptoms.

The practitioner should record the distribution and arrangement of the lesions, and the gross characteristics of the eruption.

### Objective Cutaneous Lesions

Primary and secondary objective symptoms or signs are apparent to the practitioner. A thorough knowledge of these objective lesions (Fig. 6) is necessary to arrive at a morphologic diagnosis. Objective symptoms are divided into primary and secondary lesions.

#### Primary lesions

A *macule* is a lesion of the skin which is neither raised nor depressed.

A *papule* is a solid elevation in the skin.

A *vesicle* is an elevation of the skin filled with serum.

A *pustule* is an elevation of the skin filled with pus.

Combinations of primary lesions may exist: *e. g.* maculopapule, papulovesicle, vesicopustule.

#### Secondary lesions

*Scales* are fragments of the stratum corneum. They may be profuse and silvery white as in psoriasis, scant and adherent as in lichen planus, or oily and yellowish as in seborrheic dermatitis.

*Crusts* are coagulation products of blood, serum, pus, or combinations of these. The appearance of the crust may be complicated by local medications.

*Excoriations* are scratch marks. These are factitious linear disruptions in the continuity of the skin. The presence of excoriations indicates the subjective symptom of itching.

*Fissures* are cracks in the skin secondary to loss of tone associated with inflammatory processes. Fissures are commonly observed in eczematous processes such as atopic dermatitis. Rhagades are fissures seen in congenital syphilis and

MACULE



PAPULE



VESICLE



PUSTULE



SESSILE



PEDUNCULATED



UMBILICATED



SERPIGINOUS



KOEBNER  
REACTION



CORYMBOSE



FALSE CORYMBOSE



IRIS OR TARGET



ANNULAR

FIG. 6 Configuration of lesions

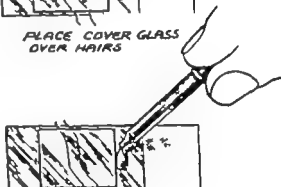
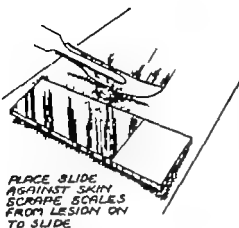


FIG. 8 Technique for preparation of specimen for direct microscopic examination for fungi

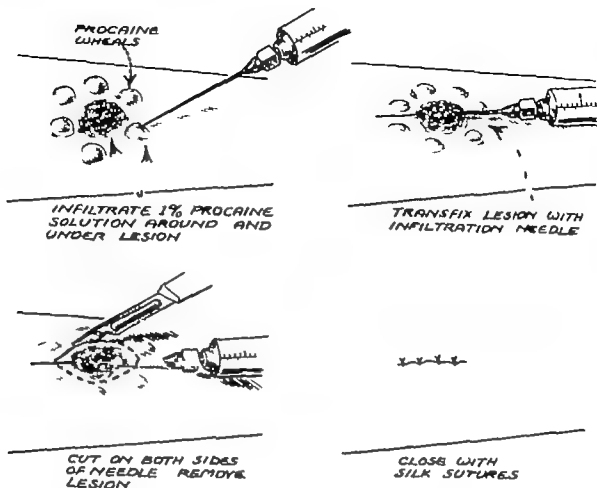


FIG. Biopsy technique

such manipulation may destroy or alter the histopathologic picture. After the specimen has been obtained it should be dipped in normal saline solution to remove the excess of blood on the surface. It should then be placed in a clean bottle containing 5.0 per cent formalin solution. An adequate clinical description should accompany the biopsy specimen to the laboratory.

#### Studies for Fungi

Identification of common dermatophytes may be made with a minimum of laboratory equipment. Direct examination of scales, hair vesicles or nail scrapings may be performed with the use of a 20 per cent solution of potassium hydroxide or the ink-potassium hydroxide stain on a slide and coverslip and a microscope. Baboraud's culture media ready for use may be obtained from a hospital or health department laboratory.

**Direct examination (Fig. 8)** Hair scales,

vesicles, or nail scrapings are placed in the center of a glass slide and are covered with a coverslip. A drop of 20.0 per cent potassium hydroxide solution is placed at the margin of the coverslip and allowed to contact the specimen by capillary attraction. The ink-potassium hydroxide stain is made by mixing 20 cc. of 20.0 per cent solution of potassium hydroxide and 10 cc. of Parker

51 Supercolor blue-black ink. The ink-potassium hydroxide preparation has the advantage of imparting a blue color to the hyphae. The moistened specimen is allowed to macerate for a variable time depending on the density of the material to be examined. Scales should macerate for 10 to 15 minutes; vesicle tops for 1 to 2 hours; hair for 15 to 20 minutes; and nail scrapings from 12 to 24 hours. The maceration time may be reduced by gently warming the wet preparation. The slide preparation is placed between two pieces of blotting paper and gently pressed to

capitis. Infected hairs exhibit brilliant green fluorescence.

Not all fungus infections of the scalp show fluorescence. This is particularly true of trichophyton infections of the hair.

This modality produces golden yellow to dark brown fluorescence in the lesions of tinea versicolor. Many other organic and inorganic substances also fluoresce when exposed to the Wood light.

The Wood light is also of value in the diagnosis of pediculosis capitis. The ova glow with a grayish fluorescence.

### Skin Tests

Patch tests, scratch tests and intradermal tests are frequently employed to determine the etiology of allergic dermatoses.

**Patch tests.** The patch test is the method used to determine skin sensitivity to contact allergens such as poison ivy, medications, resins and cosmetics.

The suspected allergen is placed on a piece of gauze 1 cm. square moistened with water and applied to an area of skin on which the hair growth is not excessive. The flexor surfaces of the forearms, the lower back, or the sides of the thighs are preferable testing sites. The piece of gauze containing the suspected sensitizing substance may be covered with cellophane and sealed with adhesive tape or with elastopatch. Readings should be made in 24 to 48 hours. A positive test may be classified as one plus (erythema), two plus (erythema and edema), three plus (inflammation and erythema) or four plus (blisters).

The examiner must be sure that he is not using a primary irritant in the performance of this test. Volatile substances, such as gasoline, soap, acids and alkalis, may be classified as primary irritant. These substances will produce a reaction in the skin of any individual. A positive reaction to a primary irritant is not an index of hypersensitivity.

**Scratch tests.** These are used to determine possible allergic reactions to inhalants, ingested or injected substances. They are of doubtful

value. The tests are usually performed on the lower back, forearm, or the sides of the thighs. Using a pointed scalpel, a scratch  $\frac{1}{4}$  to  $\frac{1}{2}$ -inch long is made for each of the substances to be tested. A drop of 0.1 normal sodium or potassium hydroxide solution is placed over each scratch. A drop of the substance to be tested is placed into the drop of the potassium hydroxide solution and gently mixed with a clean applicator stick or toothpick. After 15 minutes the skin in the tested area is rinsed with sterile water and dried. A control scratch in which only the sodium or potassium hydroxide solution is used must be done with each series of tests. Readings are made in one, two and four hours. A positive reaction consists of a wheal 1.5 to 2 cm. in diameter.

**Intracutaneous tests.** These are performed by injecting 0.1 cc. of the test material intradermally into the skin of the forearm or the upper back, using a tuberculin syringe or a small hypodermic syringe. The test substance must be injected superficially so that a wheal is produced. The readings are made at variable intervals depending on the type of material used in the test.

The *Frei test* is an intradermal test for lymphogranuloma venereum. A positive test indicates that the patient has or has had the infection but it does not mean that the present lesions are evidence of active disease. Commercial chick embryo antigen containing killed L. g. v. virus is most frequently employed in this test.

The *Ho test*, used in the diagnosis of chancroid, is performed by injecting 0.1 cc. of Duerrey vaccine intradermally. It is of doubtful value.

**Skin tests for fungi** given intradermally for common dermatophytes are unsatisfactory. Positive reactions to trichophyton or oldomyces are of no significance.

The *passive transfer test* was designed to demonstrate the existence of specific antibodies by the local transfer of hypersensitivity. The test is performed by making an intracutaneous injection of a dilution of serum from an allergic patient on the back of a normal test subject. After an interval of 24 hours the antigen is injected intracutaneously at the same site and



express the excess potassium hydroxide or stain and spread the specimen. Reduced light is used for the microscopic examination.

**Culture methods.** A culture on Sabouraud's medium should be made from all cases of suspected mycotic infection regardless of the direct examination result. Sabouraud's medium may be purchased from general laboratories or obtained from health department laboratories. The physician may prepare his own medium by using the

commercially available product or it may be prepared according to the following formula:

Glucose	40.0 gm
Agar	35.0 gm
Neopeptone	10.0 gm
Distilled water	1000.0 cc

Dissolve the glucose, agar, and neopeptone in distilled water with gentle heat. Filter through cotton gauze, place in tubes, autoclave at 15 lb pressure for 15 minutes, and slant. The most satisfactory tubes are those which have screw caps. After the slants have cooled they should be stored in a refrigerator.

The Wood light consists of ultraviolet rays with a peak wave length at 3650 Angstroms filtered through nickel oxide glass. Purple fluorescent bulbs also transmit ultraviolet rays in the region of 3650 Angstroms. This is a photoflood lamp covered with a layer of cobalt and is inexpensive. These lamps become hot and occasionally explode; therefore they must be handled with caution.

The Wood light is one of the most practical methods used in the diagnosis and management of tinea capitis caused by *Microsporum audouinii* and *Microsporum canis*. It is valuable for screening school children for the presence of tinea



FIG 9 *Malassezia furfur* (pink potassium hydroxide preparation)



FIG 10 Spores and hyphae from hair from case of tinea capitis (potassium hydroxide preparation)

## Chapter 5

# DERMAL HISTOPATHOLOGY

The history and clinical findings are important aides in the interpretation of many skin lesions. The microscopic findings of some dermatoses are pathognomonic; however many dermatologic entities do not have diagnostic histopathologic pictures and, in such situations, the biopsy may only confirm or disprove the clinical impression.

The examiner should follow a routine in studying sections of skin so that some diagnostic points are not be overlooked. The section should first be examined using the reverse ocular technique. The general structure of the epidermis, relative thickness of the keratin layer, presence of acanthosis, gross architecture of the epidermis and the pattern of the dermosis may be visualized in this manner. The section is then studied under the microscope using the low power. The keratin layer should be studied to determine whether it is thickened or decreased. The presence of parakeratosis, plugging, fissures, abscesses, or other changes which may be present should be noted. The examiner should observe the thickness of the stratum lucidum where present and the presence of an increase or decrease in the thickness of the granular layer. He should carefully study the rete (prickle cell layer) for the presence of edema (intracellular or extracellular) ballooning degeneration, cantharidin, infiltration, ulcers, dyskeratotic cells, absence of prickles, and other possible alterations. The cell in the basal layer of the epidermis should be examined for melanin pigmentation, acantholysis, dyskeratosis, and other pathologic changes. After the study of the epidermis has been completed, the examiner should proceed to note changes in the papillary layer of the dermis such as liquefaction at the junction of the basal layer and the papillary portion of the dermis. Changes in the midportion of the dermis, the deeper layers of the dermis and, finally those in the subcutaneous

or tissue or fatty layer should be noted. The type of cellular infiltrate (perifollicular or perivascular) should be recorded. The hematoxylin-eosin stain is usually satisfactory for demonstration of changes in collagen or elastic tissue but occasionally special stain must be used. Sebaceous gland, sweat gland, and hair follicles should be studied for pathologic changes.

### Glossary of the More Common Dermal Pathologic Terms

**Acantholysis** is a loss of coherence and polarity of epidermal cell due to degeneration of the intercellular bridges. Acantholysis may be due to a lack of resistance in the prickle cell in a circumscribed area and fluid collect between the cells. The acantholytic cell (dying cell) becomes enlarged and spherical. The peripheral cytoplasm becomes vacuolated and forms a halo about the enlarged deeply stained nucleus.

**Acanthosis** denotes an increase in the thickness of the prickle cell layer of the epidermis. This may be caused by an increase in the number of the individual rete cells or to an increase in the size of the cell.

**Atrophy** is an acquired decrease in size of a portion of the body of an organ or individual tissue or of individual cells. It is manifested by reduction, or partial to complete disappearance of structural elements. It is caused by gradual loss in volume, actual destruction, or transformation into degenerative products. Atrophy is usually evidenced in the epidermis by flattening at the dermal junction and loss of rete pegs.

**Basophilic degeneration** refers to the blue staining of the connective tissue when hematoxylin-eosin stain is used. It is found in such conditions as lupus erythematosus, senile skin and actinic dermatitis.

also in an adjacent area as a control. The area sensitized by the serum from the allergic patient will give an immediate positive reaction whereas the normal control should show no reaction. This test is thought by some allergists to be of value in patients with generalized atopic dermatitis or urticaria.

### Dark Field Examination

Identification of *Spirochaeta pallida* (*Treponema pallidum*) under the dark field microscope by a competent observer is the only positive means of establishing a diagnosis of syphilis. This method is of value only in early syphilis. The specimen may be obtained from any moist lesion (chancre, condylomata lata or mucous patches). Serum is obtained for dark field examination from a dry papule by excoriating the surface until it bleeds, then compressing with dry gauze until the bleeding is stopped and serum exudes. A drop of clear serum is placed on a cover slip inverted on a clean slide, pressed, and the specimen is examined under the dark field microscope. Cland puncture may also be productive of a positive dark field examination in patients with early syphilis.

**Serologic tests for syphilis.** These tests will be discussed in the chapter on Venereal Diseases.

### Routine Blood Studies

Blood chemistry, hemograms, sedimentation rate and electrophoretic patterns should be done whenever indicated. In view of the fact that most of these tests are expensive they should not be performed on every patient who visits the office or the clinic. These tests are usually not necessary in scabies, pediculosis, pityriasis rosea, psoriasis, alopecia areata, verruca vulgaris,

epidermophytosis and impetigo contagiosa. In conditions such as cutaneous xanthomata, eosinophilic granuloma, gout, erythema multiforme, erythema nodosum, tuberculosis, lupus erythematosus and blastomycosis special studies are definitely indicated.

### Röntgen Studies

Because of the expense it is usually not necessary to perform these studies on patients who have benign conditions such as impetigo contagiosa, epidermophytosis, alopecia areata and lichen planus. It is necessary to have routine x-ray studies of the chest and skeletal structures in xanthomata, sarcoidosis, tuberculosis, blastomycosis, eosinophilic granuloma, and other systemic diseases manifested by skin lesions.

### Diascopy

A diascopy is a thick glass slide which is pressed against the skin for the purpose of observing changes other than an inflammatory reaction. Its primary value lies in the clinical study of lupus vulgaris where the yellowish brown color of the nodule is made visible by the use of this test.

### Bacterial Studies

Bacterial studies should be performed on resistant pyogenic infections. Initial cultures may be made on blood agar. The identification of the causative organism should be made by a competent bacteriologist. Disc diffusion or tube dilution sensitivity tests should be performed to determine the antibiotic of choice for the systematic treatment of resistant pyogenic infections.

## Chapter 6

# MYCOLOGY

Fungi are plants which have no roots, leaves or stems. They do not contain chlorophyll and require living or dead organic matter for food. Fungi may be yeast-like or form septate threads called hyphae. Hyphae are usually branched and form a meshwork of filaments called mycelium. Fungi are subdivided into those which produce sexual spores (Phycomycetes, Basidiomycetes and Ascomycetes) and the Fungi imperfecti which have only asexual spores. All pathogenic fungi and the common laboratory contaminants are Fungi imperfecti (Fig. 11).

Fungi imperfecti are classified according to the types of asexual spores produced.

**Thallospores** are reproductive spores formed by the mycelium. **Blastospores** are spores formed by budding from the mycelium cells. **Chlamydospores** are round, thick-walled spores formed from the terminal cells of pseudohyphae of the *Candida* species. **Trichospores** are formed by segmentation of hyphae.

Conidia are produced on specialized hyphae called conidiophores and freed by constriction at the point of attachment. Single-celled, small conidia are microconidia and large multicellular spores are macroconidia. Shapes and sizes of the conidia help identify the species. There may be specialized forms of conidia such as *sporangiospores*.

### MYCOLOGIC DIAGNOSTIC METHODS

**Direct microscopic examination.** The specimen (scales, vesicle tops, hairs, nail shavings, or potestans) is placed in the center of a glass slide. Two drops of 20 per cent potassium hydroxide are added and a cover slip is placed over the specimen. The ink-potassium hydroxide stain may be used instead of 20 per cent potassium hydroxide to emphasize microscopic features.

Specimens treated with potassium hydroxide solution may be warmed gently to hasten clearing. Ink-stained specimens should be examined without warming. Positive direct examinations reveal hyphae and spores, budding yeasts or sulfur granules, depending upon the organism present.

Potassium hydroxide-treated nail specimens should be kept in a moist chamber overnight to dissolve the keratin. Hair requires 15 to 20 minutes to clear. Vesicle tops may require 1 or 2 hours, and scale may be examined immediately. Spinal fluid should be centrifuged and the sediment examined.

**Stain.** Hematoxylin-eosin stain is generally satisfactory for fungi in tissue. The Gram stain and the periodic acid-Schiff stain are occasionally necessary. A drop of India ink may be used as a capsule stain if *Cryptococcus* is suspected in spinal fluid.

**Culture methods.** All material from suspected fungus diseases should be cultured on Sabouraud dextrose agar or mycological agar medium. Mycological agar containing actidione and chloramphenicol is not as readily contaminated as Sabouraud's medium. Specimens are incubated at room temperature. *Ascomycetes* grow may be cultured in thioglycollate broth or brain-heart-infusion glucose blood agar. The tissue phase of some of the deep fungus diseases may be demonstrated by growth on the latter medium in an incubator at 37°C. Corn meal agar is used to stimulate the formation of the characteristic chlamydospores of *Candida*. One per cent dextrose is added to corn meal agar medium to differentiate *Trichophyton rubrum* (formation of red-purple color) from *Trichophyton mentagrophytes*. *Microsporum audouinii* does not grow on rice medium but *Microsporum canis* does.

*Cellules claires* are found in and about the basal layer of the epidermis. They are thought to be related to melanocytes dendritic cells or the tactile cells of Merkel Ranvier.

*Chromatophores* are large cells which ingest and carry pigment. They are found in the dermis.

*Collagen* is the normal fibrillar connective tissue found in the corium.

*Collacin* and *collastin* are degenerated collagen.

*Corps ronds* and *grains* are dyskeratotic cells occurring in the prickle cell layer. These are characteristically found in keratosis follicularis.

*Dyskeratosis* signifies a defect in keratin formation. Dyskeratotic cells are those which undergo abnormal premature keratin formation.

*Epithelial giant cell* is an abnormal or large multinucleated epithelial cell.

*Epithelioid* cells are derived from the reticuloendothelial system and resemble epithelial and endothelial cells.

*Exocytosis* designates the appearance of inflammatory cells in the epidermis.

*Foreign body giant cells* are multinucleated macrophages in which the nuclei are grouped in the center of the cell.

*Granuloma* is a broad term which covers subacute or chronic inflammatory processes that are more or less circumscribed. It excludes both the acute exudative process and tumors. It is observed in syphilis, tuberculosis, leprosy and the deep mycoses.

*Histiocytes* are connective tissue cells of the reticuloendothelial system and have phagocytic properties.

*Hyperkeratosis* means an increase in thickness of the stratum corneum.

*Hyalin degeneration* means that the connective tissue has become homogeneous and is stained more intensely than normal by the eosin part of the hematoxylin-eosin stain.

*Hyperplasia* indicates an increase in size caused by an increase in cellular elements.

*Hypertrophy* indicates an increase in size of individual cells which subsequently produce enlargement of the involved part.

*Karyorrhexis* describes nuclear dissolution.

*Lacunae* are small slit like, intra-epidermal vesicles, usually lined by a layer of basal cells. They often contain desquamated acantholytic

epidermal cells which have lost their prickles because of degenerative changes or partial keratinization.

*Langhans cells* are multinucleated giant cells seen in tuberculous and other granulomas. The nuclei are arranged in an arciform manner at the periphery of the cells.

*Liquefaction degeneration* describes the type of dissolution of the basal cell layer observed in lichen planus, lupus erythematosus, and some other conditions.

*Macrophages* are histiocytes which have phagocytized particulate matter or microorganisms.

*Molluscum bodies* are large cell inclusions which contain the virus of molluscum contagiosum.

*Munro's abscess* is a microscopic collection of leukocytes found in the stratum corneum at the granular layer. These occur in psoriasis.

*Necrobiosis* is a peculiar type of connective tissue degeneration observed in necrobiosis lipoidica diabetorum and granuloma annulare. The tissue retains its form but not its staining quality.

*Parakeratosis* indicates retention of nuclei in the cells of the stratum corneum. This is observed in scaling dermatoses.

*Pautrier's abscess* is a microscopic lesion in the epidermis seen in mycosis fungoides. It is composed of the same type of cells which form the infiltrate in the corium.

*Pseudoepitheliomatous hyperplasia* is a benign increase in epidermal elements observed in chronic inflammatory dermatoses and may resemble prickle cell carcinoma.

*Pyknosis* means shrinking of the nucleus of the cell.

*Senile degeneration* refers to changes in the elastic tissue observed in the skin of the elderly. The affected fibers are basophilic.

*Spongiosis* indicates intercellular edema of the epidermis.

*Touton giant cells* are xanthoma cells in which multiple nuclei are grouped around small islands of nonfoamy cytoplasm.

*Tubercles* are characteristic groups of cells found in tuberculosis and sarcoidosis.

*Xanthoma cells* are histiocytes which have one or more nuclei. These cells contain phagocytized lipid material.

for serologic and intradermal testing are prepared from cultures of *Blasomycetes dermatitidis*, *Blasomycetes brasiliensis*, *Histoplasma capsulatum*, *Coccidioides immitis*, *Sporotrichum schenckii*, *Candida albicans*, and *Cryptococcus neoformans*.

### Dermatomycooses

Dermatomycooses are fungus infections of the superficial layers of the epidermis.

**Tinea pedis** (epidermophytosis athlete foot). This is a fungus infection of the feet affecting the interdigital spaces and soles. It is usually caused by *Trichophyton rubrum*, *Trichophyton mentagrophytes*, or *Epidermophyton floccosum*. The condition may be acute, subacute or chronic. The acute stage is vesicular and edematous. Secondary pyogenic infection may cause systemic symptoms. The subacute stage is primarily vesicular. The chronic stage produces fissures and maceration between the toes. Dry hyperkeratotic scaling areas may be present on the soles and sides of the feet. The third and fourth interdigital spaces are commonly involved.

**Differential diagnosis.** This condition must be differentiated from atopic dermatitis, contact dermatitis, psoriasis, pruritus, dyshidrosis and hyperhidrosis. Direct microscopic examination and cultures may help confirm the diagnosis.

**Onychomycosis.** Fungus infections of the nails are commonly caused by *Trichophyton rubrum*, *Trichophyton mentagrophytes*, and *Candida albicans*. The nails become thickened, brittle, distorted and discolored. Heavy subungual concretions are usually present.

**Differential diagnosis.** This condition must be differentiated from psoriasis, onycholysis, pachyonychia congenita, dystrophy following trauma, eczema, and exfoliative dermatitis. Scrapings and cultures are essential for accurate diagnosis.

**Tinea cruris.** *Tinea cruris* is a fungus infection of the crural, genital and perianal areas caused by *Candida albicans*, *Epidermophyton floccosum*, or one of the *Trichophyton*s. The lesions are usually well defined, with elevated borders surrounding the reddish, scaling areas of dermatitis. The eruption spread peripherally and occasionally vesicles may be observed in the margins. The eruption is usually bilateral.



F 14 Culture mount showing racquet hyphae

**Differential diagnosis.** Differentiate from neurodermatitis, contact dermatitis, psoriasis, and seborrheic dermatitis. Scraping and cultures help to establish the diagnosis.

**Tinea corporis.** *Tinea corporis* is caused by fungi of the *Microsporum* and *Trichophyton* groups. The lesions may be superficial or granulomatous. The classical lesion is an annular macule with an elevated, erythematous margin and central scaling. Vesicles and pustules may be present. Lesions may be single or multiple. Animals are frequently vectors of this common infection in children.

**Differential diagnosis.** Differentiate from psoriasis, pityriasis rosea, granuloma annulare, neurodermatitis, secondary syphilis, annular lichen planus, seborrheic dermatitis, contact dermatitis, drug eruption, and erythema annulare centrifugum. Laboratory demonstration of the fungus is diagnostic.

**Tinea imbricata.** This rare tropical disease is caused by *Trichophyton concentricum*. The disease consists of concentric scaling rings over the entire body. It is resistant to treatment.

**Tinea barbae** (barber's itch). This is a chronic fungus infection of the bearded area caused by *Microsporum* or *Trichophyton* organisms. The superficial type resembles *tinea corporis*. A deeper infection is characterized by the formation of follicular pustules with kerion-like abscesses.

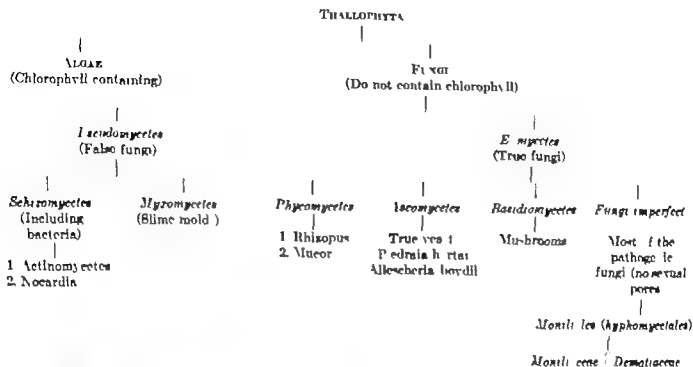


FIG. 11 Biological classification of fungi. All pathogenic fungi except the Actinomyces and the two species of Ascomycetes belong to the Fungi imperfecti having no known sexual reproduction.



FIG. 12 *Microsporum canis* grown Sabouraud medium.

Cultures are examined for gross and microscopic characteristics (Figs. 12-13-14).

**Animal inoculation.** Intravenous, intraperitoneal and intracerebral inoculations of laboratory animals determine pathogenicity and enable the study of the tissue phase of disease-producing fungi.

**Filtered ultraviolet (Wood light).** Ultraviolet filtered through cobalt nickel glass is used in a darkened room as a diagnostic aid in

tinea capitis, tinea versicolor and erythrasma. Hairs infected by *Microsporum canis* or *Microsporum audouinii* fluoresce with a bright green color not produced in hair infected by other fungi. Erythrasma lesions fluoresce with a red color. Areas of tinea versicolor produce a dull brown fluorescence.

**Immunologic tests for fungi.** Antigens

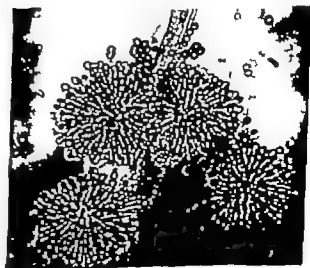


FIG. 13 Culture mount of nonpathogenic contaminant.



Figs. 15 (top) A and B Moniliasis  
 Figs. 16 (bottom left) Monilial granuloma  
 Fig. 17 (bottom right) Crural involvement in an adult

membranes of infants or in the vaginal tracts of children and women. This organism is also one of the causes of perleche (fissured lesions at the oral commissures).

**Cutaneous candidiasis.** Paronychia is a painful swelling of the perungual tissues. Onychia is characterized by thickening, discoloration, distortion, and crumbling of the nail plates. Intertriginous lesions are well-defined, vesicopustular erythematous moist areas. Monilial lesions involving the toes resemble epidermophytosis caused by the *Trichophyton*. Most erosive lesions of the inter-

digital spaces of the fingers are called erosio interdigitalis blastomycetica (Figs. 15 16 17).

**Generalized candidiasis.** Extensive lesions may develop in the gastrointestinal tract, lungs, liver, spleen, endocardium, and the meninges. Arthritis has been reported and pneumonic consolidation caused by monilial infection may occur.

#### Mycology of the Dermatophytes

**Gyphaem group.** Gross cultural characteristics reveal cotton-like colonies which are white or tan, granular or powdery. Microscopic examina-



and bogginess. Wood light examination is of diagnostic value if *Microsporum canis* or *Microsporum audouinii* is the causative organism.

**Differential diagnosis.** Differentiate from contact dermatitis, alopecia areata, seborrheic dermatitis, sycodia vulgaris, pustular syphilis, halogen dermatitis, and cystic acne. Laboratory procedures are diagnostic.

**Tinea capitis.** This is a fungus infection of the scalp caused by species of *Trichophyton* and *Microsporum*. In children the disease is caused most commonly by the *Microsporum* group. The hairs become brittle and break off or fall out, producing circumscribed areas of partial alopecia covered with adherent dry scales. Infections with *Microsporum canis* and *Microsporum gypseum* may produce edematous inflammatory lesions called *kernion* and *Microsporum audouinii* usually causes dry scaling lesions. Hairs infected with *M. audouinii* or *M. canis* have a brilliant green fluorescence when examined under filtered ultraviolet (Wood light) in a darkened room. Hairs infected with *M. gypseum* do not fluoresce. *M. canis* and *M. gypseum* are transmitted to man by animals. *M. audouinii* is transmitted only by human contact.

**Tinea capitis caused by *Trichophyton tonsurans* or *Trichophyton violaceum*** occurs in children and adults. The lesions are scaling macules with alopecia, the broken-off hairs being responsible for the name *black dot disease*, which is usually applied to this type of scalp ringworm. These infected hairs do not fluoresce.

**Tinea farosa (farus).** This is a chronic type of tinea capitis caused by *Trichophyton schoenleinii* (occasionally by *Trichophyton violaceum* or *Microsporum gypseum*). It usually produces scutula which have a musty odor. Scarring and permanent alopecia are common sequelae. This disease is endemic in Slavic and southern European countries, but rarely occurs in native-born Americans. Virginia and Kentucky are the only endemic foci in the United States.

**Differential diagnosis.** Differentiate from discoid lupus erythematosus, pseudopelade, psoriasis, impetigo, folliculitis decalvans, trichotillomania

and secondary syphilis. Laboratory procedures are essential for accurate diagnosis.

**Tinea versicolor.** This is a superficial chronic fungus infection which appears as fawn-colored, scaly macules on the trunk. Occasionally lesions develop in the groins, axillae, arms, thighs, neck, face and scalp. The lesions produce a dull brown fluorescence under the Wood light. The areas may be hypopigmented. Direct microscopic examination of the scales reveals grapelike bunches of spores and short branching hyphae. A satisfactory means of culture has not been developed for *Malassezia furfur*, the causative organism.

**Erythrasma.** Erythrasma is a chronic fungus infection involving the stratum corneum of the axillae or crural region. The lesions appear as scaly, erythematous maculopapules with a scant amount of greasy scale. *Nocardia minutissimum*, the causative organism, may be demonstrated on direct microscopic examination. A satisfactory means of culture has not been developed for this organism.

**Piedra.** This is a fungus infection of hair characterized by the formation of hard nodules or concretions on the shafts of the scalp hair and mustache. Black piedra is caused by *Piedra hortae* and white piedra is caused by *Trichosporon beigeli*. Both are rare in the United States.

**Trichomycosis axillaris or Lepothrix.** This is a condition in which the axillary and pubic hairs are covered with yellow, red or black concretions. It is probably caused by a *Corynebacterium* and not by a fungus.

**Candidiasis (moniliasis).** An infection caused by *Candida albicans* may involve the mouth, vagina, skin and nails or produce extensive pulmonary and gastrointestinal lesions. Blood stream invasion may produce meningitis or endocardial lesions. The organism is found on the skin and mucous membranes in 1% per cent of normal people. Broad spectrum antibiotics are thought to stimulate development of candidiasis by altering the normal bacterial flora of the skin and gastrointestinal tract.

**Mucous membranes.** White plaque-like lesions of moniliasis (thrush) appear on the oral mucous

case is accompanied by fever, chills, sweats and other symptoms referable to the affected organs.

**Microscopy** Microscopic examination of the crushed sulfur granules reveals the club shaped hyphae which create the appearance of the "ray fungus". The organism is Gram-positive. Material must be cultured on brain-heart infusion glucose broth or Brewer's thioglycollate broth and incubated anaerobically. *Actinomyces bovis* appears as cottony white small suspended colonies in the medium. Immunologic tests have not been developed for this infection.

**Actinomycosis.** This is caused by *Actinomyces viscosus* and other species of the same genus. *Actinomyces viscosus*, an aerobic organism, is partially acid fast and produces lesions similar to those caused by *Actinomyces bovis*. It may run of bone fungus, or central nervous system as well as skin and subcutaneous lesions.

**North American blastomycosis (Gilchrist's disease).** This is caused by the *Blastomyces dermatitidis*, a single-budding yeast with a doubly contoured cell wall. The typical cells are found in infected tissue and incubated cultures. The blastomycotic cottony fungus grows on artificial media at room temperature. The disease is characterized by the development of granulomatous and suppurative lesions in the skin. The respiratory tract is the usual portal of entry and subsequently the liver, spleen, kidney and central nervous system may become involved. The organism can be found in pus and tissue on direct examination. The diagnosis is verified by culture. A complement fixation test and an intradermal test are valuable as diagnostic and prognostic aids. The patient with a positive complement fixation test in high titre and a negative or weakly positive intradermal test has a poor prognosis.

**South American blastomycosis (paracoccidioides granuloma).** This is caused by *Blastomyces brasiliensis*. It is a multiple budding, large yeast in tissue or when cultured in an incubator. It develops a slow-growing, heaped, wrinkled colony when incubated at room temperature. Cutaneous and mucosal lesions, lymphatic and visceral lesions, or mixed involvement may constitute the clinical picture. It is seen

chiefly in Brazil. The intradermal skin test and complement fixation test are useful diagnostic aids.

**Coccidioidomycosis.** *Coccidioides immitis* is caused by *Coccidioides immitis*. It is found chiefly in the San Joaquin Valley of California. The organism is present in the soil. Two main clinical types are seen.

**Primary pulmonary coccidiomycosis** may be asymptomatic or appear as a mild upper respiratory infection. Erythema nodosum and erythema multiforme may occur simultaneously. Mediastinal adenopathy is part of the syndrome of pulmonary involvement. Progressive pulmonary coccidiomycosis, a fatal manifestation, is a massive type of pneumonia common in dark skinned people. Meningitis and osteomyelitis may occur.

**Complications of primary coccidiomycosis** occurs as granulomatous or verrucous skin lesions on exposed areas.

**Microscopy** The organism is a non-budding, thick walled spherule filled with endospores. On culture media the organism produces white cottony mycelium with septate hyphae which become chains of arthrospores. Intradermal and complement fixation test are useful diagnostic aids.

**Histoplasmosis.** This is a fungus infection which begins in the upper respiratory tract and is caused by *Histoplasma capsulatum*. The condition may start as primary pulmonary histoplasmosis and become a progressive systemic disease with anemia, fever, leukopenia, splenomegaly and hepatomegaly. Generalized lymphadenopathy, interstitial ulceration, nasal ulceration, and granulomatous lesions may develop. A part of the systemic syndrome. The organism is present in the soil. Complement fixation tests, intradermal test and standard cultures and biopsies are necessary to establish the diagnosis. The organism is intracellular and is present in the reticulo-endothelial cells of all affected tissues.

**Microscopy** The organism grows on artificial media in the incubator as a creamy yeast and as a white filamentous colony at room temperature. Microscopically it present budding, oval cells in the yeast phase. In the filamentous phase

tion of cultures reveal spiral or coiled hyphae nodular bodies and chlamydospores. *Trichophyton mentagrophytes* shows all the characteristic features of this group.

**Rubrum group** The colonies are cotton like or powdery with a red purple color developed on the under side of the medium. Inoculation of the organism on corn meal dextrose agar aids in developing the purple-red color.

**Crateriform group** *Trichophyton tonsurans* is a cause of nonfluorescent tinea capitis. Growth characteristics show a white cream yellow or brown heaped folded surface. Colonies are velvety or powdery. Microscopically clavate microconidia are seen along the hyphae. Chlamydospores and club-shaped terminal hyphae are also present. This is an endothrix organism.

**Faviform group** The colonies on Sabouraud's medium are waxy glabrous, heaped and folded and grow slowly. Later velvety or powdery mycelium may appear. Hyphal swellings, chlamydospores, and faveic chandeliers are seen microscopically. Five species are seen in this group.

*Trichophyton schoenleinii* Causes impetigo reveals glabrous heaped cerebriform yellow brown colonies. Faveic chandeliers are seen microscopically.

*Trichophyton concentricum* At first the colonies are white folded and heaped and turn brown later. This organism causes tinea imbricata.

*Trichophyton ferrugineum* The colonies are yellow or orange heaped folded and waxy. The organism is an ectothrix.

*Trichophyton violaceum* The colonies are glabrous, folded heaped and violet in color. Microconidia and microconidia are seen on microscopic examination when the fungus is grown on enriched medium.

*Trichophyton verrucosum* The colonies are cerebriform waxy and white. Chlamydospores are seen on microscopic examination.

**Rosaceum group** Velvety white colonies later become rose to pink. Microscopically many microconidia mequet hyphae and chlamydospores are seen.

*Trichophyton megnini* This requires histidine for growth on artificial media. It has a cotton white and later rose or violet-colored growth.

*Trichophyton gallinae* The white downy colonies have radial grooves and red pigment throughout the agar. It does not require histidine for growth on artificial media.

#### **Microsporum group**

*Microsporum audouinii* Colonies are slow growing gray to brown in color with radial grooves and a red brown color on the reverse side. They grow poorly on rice medium. Few macroconidia develop except on special media. Clavate microconidia are rarely seen.

*Microsporum canis* Rapidly growing cotton like colonies become powdery and brown with a yellow-orange color on the reverse side of the colony. They grow well on rice medium. Microscopically multiseptate large spindle-shaped thick walled macroconidia are seen.

*Microsporum gypsum* Fast growing powdery colonies develop a cinnamon brown color and a red-brown color is seen on the reverse side of the colony. Septate ellipsoidal rough walled macroconidia are seen microscopically.

*Epidermophyton floccosum* The olive-green colonies are velvety or powdery with radiating grooves. Microscopically no microconidia are seen but there are abundant macroconidia which are large clavate multiseptate and thin walled. Chlamydospores are also seen. Because of rapidly developed pleomorphism the colonies turn white and cotton like.

**Candida albicans** Direct microscopic examination reveals small oval budding thin walled yeast cells. Short hyphae may also be present. Cultures show white to cream-colored moist colonies which have a yeast-like color. Inoculation of corn meal agar is productive of the diagnostic lateral and terminal chlamydospores. This is the only *Candida* pathogenic to man.

#### **THE DEEP FUNGUS INFECTIONS**

**Actinomyces** This disease is caused by *Actinomyces bovis*, an anaerobic fungus. This is a chronic infection with abscess formation and multiple draining masses. Sulfur granules composed of clumps of granular Gram positive hyphae are found in the purulent discharge. The disease is classified as the cervicofacial type and the thoraco-abdominal type. This systemic dis-

case is accompanied by fever, chills, sweats and other symptoms referable to the affected organ.

**Mycology** Microscopic examination of the crushed sulfur granules reveal the club shaped hyphae which create the appearance of the 'ray fungus'. The organism is Gram-positive. Material must be cultured on brain-heart infusion glucose broth or Brewer's thioglycollate broth and incubated anaerobically. *Actinomyces bovis* appears as cottony white small suspended colonies in the medium. Immunologic tests have not been developed for this infection.

**Actinomycosis.** This is caused by *Actinidia asteroides* and other species of the same genus. *Actinidia asteroides*, an aerobic organism, is partially acid fast and produces lesions similar to those caused by *Actinomyces bovis*. It may involve bone, lungs or central nervous system all a skin and subcutaneous tissues.

**North American blastomycosis (Gilchrist disease)** This is caused by the *Blastomyces dermatitidis* a single-budding yeast with a doubly contoured cell wall. The typical cells are found in infected tissue and incubated cultures. The filamentous cottony fungus grows on artificial media at room temperature. The disease is characterized by the development of granulomatous and suppurative lesions in the skin. The respiratory tract is the usual portal of entry and subsequently the liver, spleen, kidney and central nervous system may become involved. The organism can be found in pus and tissue on direct examination. The diagnosis is verified by culture. A complement fixation test and an intradermal test are available as diagnostic and prognostic aids. The patient with a positive complement fixation test in high titer and a negative or weakly positive intradermal test has a poor prognosis.

**South American blastomycosis (paracoccidioidomycosis)** This is caused by *Blastomyces brasiliensis*. It is a multiple budding large yeast in tissue or when cultured in an incubator. It develops as a low-growing, heaped, wrinkled colony when incubated at room temperature. Cutaneous and mucosal lesions, lymphadenitis and visceral lesions or mixed involvement constitute the clinical picture. It is seen

chiefly in Brazil. The intradermal skin test and complement fixation test are useful diagnostic aids.

**Coccidioidomycosis.** *Coccidioidomycosis* is caused by *Coccidioides immitis*. It is found chiefly in the San Joaquin Valley of California. The organism is present in the soil. Two main clinical types are seen.

**Primary pulmonary coccidioidomycosis** may be asymptomatic or appear as a mild upper respiratory infection. Erythema nodosum and erythema multiforme may occur simultaneously. Mediastinal adenopathy is part of the syndrome of pulmonary involvement. Progressive pulmonary coccidioidomycosis, a fatal manifestation, is a massive type of pneumonia common in dark-skinned people. Meningitis and osteomyelitis may occur.

**Nonpulmonary primary coccidioidomycosis** occurs as granulomatous or verrucous skin lesions on exposed areas.

**Mycology** The organism is a non-budding, thick-walled spherule filled with endospores. On culture media the organism produces white cottony mycelium with septate hyphae which become chains of arthrospores. Intradermal and complement fixation test are useful diagnostic aids.

**Histoplasmosis.** This is a fungus infection which begins in the upper respiratory tract and is caused by *Histoplasma capsulatum*. The condition may start as primary pulmonary histoplasmosis and become a progressive systemic disease with anemia, fever, leukopenia, pleuroragely and hepatomegaly. Generalized lymphadenopathy, intestinal ulceration, nasal ulceration, and granulomatous lesions may develop as part of the systemic syndrome. The organism is present in the soil. Complement fixation tests, intradermal test and standard cultures and biologies are necessary to establish the diagnosis. The organism is intracellular and is present in the reticulo-endothelial cells of all affected tissues.

**Mycology** The organism grows on artificial media in the incubator as a creamy yeast and as a white filamentous colony at room temperature. Microscopically it presents budding, oval cells in the yeast phase. In the filamentous phase

hyphae with tuberculate chlamydospores are diagnostic. These spores are thick walled round bodies, covered with many short flagellate structures projecting from the cell walls.

**Cryptococcosis.** Caused by *Cryptococcus neoformans*. Cryptococcosis usually involves the meninges and brain but may affect the lungs, skin or other organs. It enters the body through the upper respiratory tract and reaches the meninges and brain by hematogenous spread. The symptoms are those of chronic meningitis such as headaches, vertigo and stiff neck. Psychotic symptoms may develop. Papular, ulcerative and granulomatous lesions are seen on rare occasions.

**Mycology:** Examination of the spinal fluid discloses an increased cell count with budding and encapsulated yeast cells, made visible with India ink. Cultures are creamy and yeast like. The organism has the ability to grow at 37°C which differentiates the pathogenic *Cryptococcus neoformans* from nonpathogenic organisms of the same family.

**Sporotrichosis.** This is a chronic infection caused by *Sporotrichum schenckii*. The primary lesion is the sporotrichal chancre which develops at the site of inoculation. Nodules develop along the lymph vessels, and ulcers may be involved. The organism is soil-borne. The disease is classified clinically into (1) lymphangitic type with chancre-like primary lesion and nodule formation

along the lymph vessels (2) epidermal type, (3) a mucous membrane type with ulceration and (4) the visceral type.

**Mycology:** *Sporotrichum schenckii* is seldom identified in direct smears. Cultures grow in 3 to 5 days as small white moist wrinkled colonies which may turn gray or black. Microscopically thin septate hyphae with pyriform or oval conidia are seen. Complement fixation and intradermal tests are of doubtful value.

**Maduromycosis.** This is a chronic infection of the feet caused by a variety of fungi of many different species. This tropical disease is characterized by swelling and multiple sinuses with a purulent discharge containing sulfur granules. Bone destruction occurs in advanced cases. The variety of causative organisms include *Allescheria boydii*, *Madurella indiana*, *Cephalosporium Genosporium*, *Phialophora*, *Monosporium*, *Adinomyces*, *Vocardia*, *Aspergillus* and *Penicillium*. **Chromoblastomycosis** is endemic in Central America, however an occasional case develops in the southern United States. It is caused by members of the *Hyphodendrum* and *Phialophora* groups. The lesions develop primarily on the extremities as verrucous and papillomatous vegetations.

**Mycology:** The organism appears as brown septate bodies in tissue and in pus. On culture media the organisms are brown to black, brittle colonies with short nap-like mycelium.

## Chapter 7

### ALLERGY

**Allergy** is an acquired specific alteration in living tissue reaction, upon exposure to organic or inorganic substances.

**Sensitivity** is the normal tissue reaction to exposure.

**Hypersensitivity** is a greater than normal capacity to react.

**Hypo-sensitivity** is a less than normal capacity to react.

**Immunity** is a state of resistance to a specific pathogenic agent.

An allergic reaction postulates that (1) the allergen was encountered, in some form, by the patient at a previous time (2) the patient's response to the subsequent exposure was different from the response to the first exposure and (3) the alteration in the reactive capacity of the patient is the result of a previous exposure. In allergy there is the incubation period, the time lapse that exists between exposure to a given agent and the first appearance of a characteristic reaction by the sensitized tissue. The reaction time is the period which elapses from the moment of exposure of the sensitive tissue to the specific excitant to the appearance of the first gross tissue change.

If the original allergen remains in contact with the reactive tissue after the incubation time has elapsed spontaneous flare may occur without reapplication of the substance. The spontaneous flare will explain the appearance of an eruption 10 to 14 days after exposure to poison ivy or 2 to 3 weeks after an injection of penicillin. All exposures to allergens do not result in sensitization. This apparent immunity is called a refractory period.

Some allergens give rise to specific reactions

when used as test materials: poison ivy produces a vesicular reaction in 24 to 48 hours; aspirin, an urticarial type reaction in 15 to 30 minutes; and the tubercle bacillus, a papular reaction in 4 to 48 hours. The reaction time is always the same regardless of the number of exposures. An accelerated response may be obtained because an incubation period is not necessary.

Allergic reactions may be macular, papular, vesicular, pustular or urticarial. The three major types of cutaneous allergic reactions are eczematous, urticarial and tuberculin.

#### Eczema

**Eczema** is a morphologic not a specific diagnostic term. Eczema may be atopic, seborrheic or contact. In the acute phase the eruption is macular, papular or vesicular dry or moist and has an erythematous edematous base. It may be uniform or multiform, discrete or confluent, ill defined or partially defined. Crusting may or may not be present. As the eruption becomes chronic the skin becomes thickened and lichenified because of accentuation of the normal skin lines. The lesion may be dull red or hyperpigmented. Secondary pyogenic infection may complicate the picture. An area of chronic eczema may become acutely inflamed.

**Eczematous contact response.** Formerly the epidermis was thought to be the shock tissue but recent studies indicate that the reaction probably starts in the cutis. Although circulating antibodies have not been found they may rest within certain white cells. There is no familial tendency and there is no eosinophilia. The clinical reaction consists of edema, erythema and vesicle formation. Histologically there is spongiosis

hyphae with tuberculate chlamydospores are diagnostic. These spores are thick walled round bodies, covered with many short flagellate structures projecting from the cell walls.

**Cryptococcosis.** Caused by *Cryptococcus neoformans*, cryptococcosis usually involves the meninges and brain but may affect the lungs, skin or other organs. It enters the body through the upper respiratory tract and reaches the meninges and brain by hematogenous spread. The symptoms are those of chronic meningitis such as headache, vertigo and stiff neck. Psychotic symptoms may develop. Papular ulcerative and granulomatous lesions are seen on rare occasions.

**Mycology.** Examination of the spinal fluid discloses an increased cell count with budding and encapsulated yeast cells made visible with India ink. Cultures are creamy and yeast like. The organism has the ability to grow at 37°C which differentiates the pathogenic *Cryptococcus neoformans* from nonpathogenic organisms of the same family.

**Sporotrichosis.** This is a chronic infection caused by *Sporotrichum schenckii*. The primary lesion is the sporotrichal chancre which develops at the site of inoculation. Nodules develop along the lymph vessels, and viscera may be involved. The organism is soil-borne. The disease is classified clinically into (1) lymphangitic type with chancre-like primary lesion and nodule formation

along the lymph vessels, (2) epidermal type, (3) a mucous membrane type with ulceration and (4) the visceral type.

**Mycology.** *Sporotrichum schenckii* is seldom identified in direct smears. Cultures grow in 3 to 5 days as small white moist wrinkled colonies which may turn gray or black. Microscopically thin septate hyphae with pyriform ovoid conidia are seen. Complement fixation and intradermal tests are of doubtful value.

**Maduromycosis.** This is a chronic infection of the feet caused by a variety of fungi of many different species. This tropical disease is characterized by swelling and multiple sinuses with a purulent discharge containing sulfur granules. Bone destruction occurs in advanced cases. The variety of causative organisms include *Illu-cheria boydii*, *Madurella*, *Indiella*, *Cephalosporium*, *Genosporium*, *Phialophora*, *Monosporium*, *Adinomyces*, *Nocardia*, *Aspergillus*, and *Penicillium*. **Chromoblastomycosis** is endemic in Central America however an occasional case develops in the southern United States. It is caused by members of the *Hormodendrum* and *Phialophora* groups. The lesions develop primarily on the extremities as verrucous and papillomatous vegetations.

**Mycology.** The organism appears as brown septate bodies in tissue and in pus. On culture media the organisms are brown to black brittle colonies with short nap-like mycelium.

## Chapter 7

### ALLERGY

*Allergy* is an acquired specific alteration in living tissue reaction upon exposure to organic or inorganic substances.

*Sensitivity* is the normal tissue reaction to exposure.

*Hyper-sensitivity* is a greater than normal capacity to react.

*Hypo-sensitivity* is a less than normal capacity to react.

*Immunity* is a state of resistance to a specific pathogenic agent.

An allergic reaction postulates that (1) the allergen was encountered, in some form, by the patient at a previous time (2) the patient's response to the subsequent exposure was different from the response to the first exposure and (3) the alteration in the reactive capacity of the patient was the result of a previous exposure. In allergic states the incubation period is the time lapse that exists between exposure to a given agent and the first appearance of a characteristic reaction by the sensitized tissue. The reaction time is the period which elapses from the moment of exposure of the sensitized tissue to the specific excitant to the appearance of the first gross tissue change.

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*Exzematous contact response*. Formerly the epidermis was thought to be the shock tissue but recent studies indicate that the reaction probably starts in the cutis. Although circulating antibodies have not been found they may rest within certain white cells. There is no familial tendency and there is no eosinophilia. The clinical reaction consists of edema, erythema, and vesicle formation. Histologically there is spongiosis



and vasculation of the epidermis, together with cellular infiltration and some dilatation of the vessels of the cutis.

**Urticarial response.** The cutis is the shock tissue. There is edema caused by extravasation of fluid and cells through the capillary walls. Clinically there is wheal formation. Reaction time varies from a few minutes to 20 minutes and is usually accompanied by itching. There may be a familial tendency.

Urticarial lesions are induced by foods, drugs, insect allergens, inhalants, foci of infection and other endogenous agents. *Contact urticaria* is rare but may occur because of transepidermal penetration. The precipitating factors, productive of urticaria are vasomotor instability and metabolic and gastrointestinal disturbances.

Scratch and intracutaneous tests are used as diagnostic measures. Care must be exercised in intracutaneous testing to prevent severe reactions such as asthma. Scratch testing is safer and less expensive but is not as sensitive as intracutaneous testing. The initial local red reaction (erythema) at the site of trauma starts in 3 seconds and reaches its maximum in 45 seconds; it is independent of the nerve supply, as it is caused by dilatation of capillaries. The second phase or flare is manifested by intensification and spread of the erythema through an axon reflex and is caused by the dilatation of the smallest arteries. The third phase is a local increased permeability of blood vessels which produces edema and is independent of nerve supply. This triple response may be elicited by 3 types of substances: (1) primary urticariogenic substances such as histamine, morphine, atropine or scopolamine; (2) stroking of the skin (dermographism); (3) true allergic urticarial sensitivity.

Theoretically the urticarial response may be caused by histamine or a histamine-like substance which is elaborated by the damaged cell. It may be an antigen-antibody union with or without histamine liberation.

### **Tuberculin Type Reaction**

This is a delayed hypersensitivity reaction to tuberculin which develops in 24 to 72 hours. The shock tissue is the medulla. Testing is done

by the scratch or intradermal method. Clinically there is erythema, infiltration and papule formation. Histologically it is marked by vascular dilatation and cellular infiltration. It is usually caused by an allergic response to bacterial or fungus products but foreign sera, plant extracts and simple chemicals may also cause a tuberculin type reaction. The response is not associated with a familial tendency or eosinophilia. Antibodies cannot be demonstrated by passive transfer.

### **Atopic Dermatitis**

The term *atopy* literally means strange disease. Patients with atopic dermatitis usually have a family history of other atopic disorders such as allergic rhinitis, asthma, migraine, urticaria or gastrointestinal disturbances. Eosinophilia is a common finding. Positive intracutaneous tests or scratch tests, and passive transfer antibodies (Krausitz-Kurster) may be demonstrated. Anaphylactoid reactions may develop in patients with atopy necessitating caution in the administration of foreign proteins. In atopy the specific substance which produces the atopic state. It may be an inhalant, ingested or contactant.

Skin testing is not an absolutely definitive diagnostic measure. Atopic individuals have a propensity to react to many injected test allergens but may not react to them on clinical contact. There is a strong psychogenic component which modifies the clinical reaction to the allergen.

Atopic dermatitis is an eczematous condition. Testing is done by scratch or intradermal methods which cause an immediate urticarial response. Inhalants and ingestants are the substances most frequently used in testing. Extreme caution must be exercised in intracutaneous testing because of the possible production of a severe constitutional reaction. In childhood the approximate ratio of positive reaction to foods versus inhalants is 2 to 1; in adolescence inhalants predominate. A positive scratch intradermal or Krausitz-Kurster test is of no significance if a reaction is not obtained on clinical exposure to the allergen. Approximately 50 per cent of persons with atopic dermatitis have other atopic diseases and it is seldom possible

to recognize the offending allergen in these cases. Multiple allergen may be responsible for the production of clinical symptoms in a single individual.

### Contact Dermatitis

Contact dermatitis may be caused by a primary irritant or a sensitizing substance. A primary irritant produces its response by actual physical damage to the skin. Examples of primary irritants are strong acids, alkalis, phenol, and mustard gas. Some substances act as a primary irritant or allergen, depending upon the concentration which comes in contact with the skin.

In allergic contact dermatitis is a true sensitization phenomenon. The allergic test is usually induced by a simple chemical (hapten) conjugated with a larger molecule (carrier). The sensitizing substances, which do not produce detectable antibodies, are in monocytes, lymphocytes and plasma cells. It is thought that sensitivity is spread by the superficial lymphatics. The entire body surface may be sensitized in matter here the sensitivity reaction develops.

Allergic contact dermatitis is an acquired specific alteration to the capacity to react. It is a true allergic reaction.

Detailed history and careful observation are important steps in the investigation of allergic contact dermatitis. The sensitizing material may be contacted at home, at work, at play or in transit. Allergic contact dermatitis is usually recurrent; however, substances such as silk or morphine may cause an unusual response.

The patch test, the diagnostic method of choice. Patch testing is performed by placing the shortened, impregnated agent on the skin of the patient and covering it with a nonadherent band aid or a elastoplast. Volatile agent such as perfume are left uncovered. In 4 to 48 hours the covering is removed and the intensity of the reaction recorded. A delayed positive test may not appear for 2 hours. A positive reaction may be from simple erythema to bleb formation and necrosis.

Patch testing must be carefully performed. The test material must be in proper dilution since it may act as a primary irritant in 3 per

cent concentration or as a true sensitizer in 3 per cent concentration. The positive test must be interpreted in the light of previous exposure. If the reaction is urticarial or pustular it may be caused by heat and maceration produced by covering.

A negative test may not be significant clinically. According to the general rule previously mentioned, the sensitivity may be local and not reproduced at the test site. The patient may be in a refractory state. Patch testing cannot exactly simulate clinical conditions.

No discussion of contact dermatitis is complete without consideration of the broadening of the allergic law. This term implies that an individual with an allergic contact sensitivity to one or more substances may develop sensitivity reaction to other substances. Other allergic manifestations may develop. It is important diagnostically, therapeutically and particularly in the field of occupational disease when an affected worker fails to improve after removal from his occupational environment.

It is frequently difficult to determine whether or not an eruption is truly allergic or caused by a primary irritant. Some factors that may make an allergic eruption persist are (1) bacterial infection (2) dyshidrosis (3) the use of topical or oral sensitizers that cross-sensitize with the original offending allergen (4) over treatment (5) the itch-scratch habit perpetuated by excoriation and (6) emotional tension.

### Drug Eruption

Drug eruptions may be allergic or toxic. Toxic manifestation will occur if the dose is large enough and/or the medication has a cumulative effect. Factors on which a diagnosis of an allergic drug eruption is based includes (1) previous tolerance to the drug (2) small doses elicit a response (3) a cutaneous response different from that produced by its usual toxic or pharmacologic action (4) different drugs may elicit the same response (5) regardless of the dose an allergic response cannot be caused in all persons (6) the absence of cumulative effect (7) the ability of a drug to cause a specific reaction not produced by its isomer and (8) the fulfillment of the

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Patch testing must be carefully performed. The test material must be a proper dilution since it may act as a primary irritant in 5 per

cent concentration or as a true sensitizer in 3 per cent concentration. The positive test must be interpreted in the light of previous exposure. If the reaction is urticarial or pustular it may be caused by heat and maceration produced by covering.

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criteria of the incubation period and spontaneous flare

Simple chemicals and drugs may mimic the manifestations of diseases caused by microorganisms or other allergens. There are variations in species susceptibility and immunity to simple chemicals just as there are to microorganisms.

Drugs have different degrees of ability to sensitize. A drug may cause different types of eruptions. *i.e.* salicylates may cause *large erythema urticaria erythema multiforme* or *purpura*. There is a tendency for certain drugs to produce a characteristic response. *i.e.* iodides and bromides usually cause follicular lesions. phenolphthalein and antipyrine produce *erythema multiforme* or fixed eruptions. Drug reactions are not always caused by the substance administered but may be caused by its metabolites.

Skin tests are of no value except in the eczema toxic drug eruptions. The diagnosis of a drug eruption is based on the type of reaction caused by a specific drug, the locations in which the eruption appears, the circumstances under which exposures may occur and knowledge of the sensitizing potential of apparently unrelated drugs.

### Fixed Drug Eruptions

The site of the eruption but not the reaction is fixed. The lesions are oval or round erythematous patches, occasionally associated with edema but always leaving hyperpigmentation when the acute lesion subsides. They may be single or multiple. The original eruption may be macular, urticarial or bullous. Less commonly herpetiform, necrotic, nodular or follicular.

The involved sites may lose reactivity partially or completely temporarily or permanently but new areas may become sensitized. Polyvalent sensitivity may exist so that a site which reacts to antipyrine may also erupt when phenolphthalein or barbiturates are administered.

There is no association with heredity or general health. The peripheral blood vessels are the reactive site, and skin testing is of no value. The challenging dose is administered orally or parenterally.

### Allergic Dermatoses Caused by Physical Agents

A dermatosis caused by a physical agent is considered allergic, must conform to the criteria of allergy. Physical agents can cause true allergic reactions as well as nonallergic dermatoses caused by primary irritation. The offending substance is probably a normal metabolite produced by action of the specific physical stimulus. It acts as an allergen only in susceptible individuals.

**Eczematous and polymorphous light eruptions.** An eruption caused by sunlight may be the result of (1) formation and release of increased numbers of normal metabolites with an exaggerated response (sunburn), (2) formation and release of normal metabolites with an abnormal response (allergic), (3) formation and release of abnormal metabolites causing irritation and (4) formation and release of abnormal metabolites causing an allergic response.

**Phototoxic reactions** involve the absorption of light and the transference of its energy to vulnerable tissue.

**Photoallergic responses** appear only after a suitable incubation period and thereafter may be reproduced within 24 hours. They cannot be produced on all individuals. All photoallergic responses are caused by photodynamic action but all photodynamic reactions are not photoallergic. Substances released by the damaged tissue may act as irritant or antigen. Sulfonamides, barbiturates, coal tar and chlorpromazine are types of photosensitizing agents. A chemical may act either as a phototoxic or a photoallergic stimulus.

These eruptions usually appear with greater frequency in the spring and summer months. The reaction is cumulative. The lesions usually develop on the backs of the hands and fingers, the lateral aspects of the wrists and forearms, the forehead, the nose and the cheeks, and the V of the neck.

Polymorphous light eruptions include (1) erythema with or without edema, (2) erythema multiforme, (3) acute or chronic eczema and (4) papular urticaria or prurigo.

Exposure to sunlight may cause transient erythema (occasionally associated with edema) lasting from several minutes to an hour. Erythema multiforme-like eruptions are more commonly seen and are difficult to distinguish from acute lupus erythematosus. An eczematous response with papules and vesicles is a frequent development. Single pink, indurated plaques with telangiectasia, lichenification and scaling may occur on the cheeks and neck.

In *congenita porphyria* there is exquisite sensitivity to sunlight with the development of bullae on the face and hands. In *porphyria cutanea tarda* increased pigmentation, papules, papulovesicles and eczematization form the cutaneous clinical picture.

*Solar urticaria* is a cutaneous reaction caused by exposure to the sun and develops on the exposed area. Shock and collapse may occur. It is frequently associated with solar eczema, may begin at any time in life and may be recurrent. As with other light sensitive states, the condition predominates in females.

*Hyperaesthesia to heat* may be manifested by generalized urticaria brought on by emotional stress, heat and exercise or localized urticaria caused by local application of heat.

*Cutaneous sensitivity to cold* The most common cutaneous reaction on exposure to cold in patients with cryoglobulinemia is purpura. Other changes are cold urticaria, Raynaud phenomenon, necrosis, ulceration, and conjunctival, oral nasal and retinal hemorrhages.

*Typical paroxysmal cold hemoglobinuria* is caused by hemolysis that occurs with erythrocytes on exposure to cold and causes hemolysis on rearming in the presence of complement. It is clinically manifested as hemoglobinuria. In cold urticaria associated with this entity passive transfer antibodies may or may not be demonstrated.

In *cold hemagglutination* there is agglutination of homologous or heterologous erythrocytes at low temperatures. High titres of cold hemagglutinins occur in primary typical pneumonia, infectious mononucleosis, hemolytic anemia and other diseases.

*Essential cold urticaria* is the most common form of cold urticaria and may be manifested by wheal formation or diffuse swelling. The triple response occurs and histamine is released. The two types of essential cold urticaria are acquired and congenital.

*Acquired cold urticaria* comes on suddenly. The eliciting factors include insect bites, viral diseases, horse serum injections, foci of infection, drugs, and emotional stimuli. Patients frequently have a personal or family history of atopy. Urticaria is usually manifested on the exposed areas but may be generalized.

### Allergy of Infection

This type of allergy is an acquired specific alteration in the capacity to react to infection or to exposure to microorganisms and/or their products. It may develop as a state of decreased reactivity, increased reactivity or immunity. The diagnostic intradermal tests are done by using killed microorganisms, their extract or products.

Primary allergic lesions may be associated with the appearance of secondary lesions called "ids." Infection on the feet with a dermatophyte may lead to the development of an allergic eruption (dermatophytid) on the hands. The criteria of a microbial eruption are (1) the causative organism must be demonstrated in a classical manifestation of the disease (2) the organism cultured from the primary lesion must be a pathogen (3) a positive skin test analogous to the tuberculin or trichophyton reaction must be present (4) an "id" should be seen as a frequent sequela of the primary lesion (5) microbial must develop subsequent to the primary infection (6) the microbials must be sterile and (7) tendency to spontaneous involution after healing of the primary focus.

The id reaction is caused by the organism or its products. This phenomenon occurs not only in association with bacterial and fungus diseases but also in eczematous conditions where infection is superimposed on the primary site.

## Chapter 8

# OCCUPATIONAL DERMATOSES

An occupational dermatitis is a skin eruption produced by contact with a material or materials which a patient handles during the course of his work. A previously existing dermatosis which has been aggravated by such materials is also classified as an occupational disease even though the factor causative of the original eruption was not related to the job in any way. The State Industrial Accident Commissions in the United States report that skin eruptions constitute approximately 60 per cent of all medical diseases reported to the compensation boards. The increase in incidence of industrial dermatoses during the past 20 years may be attributed in part to the introduction of many synthetic materials. Practically every substance used in modern industry is either a potential sensitizer or a primary irritant. The industrial dermatologist is actually a specialist in his own right and must possess the qualities of safety engineer, clinician and chemist as well as a knowledge of forensic medicine.

There are many facets in the problems of industrial dermatology which require careful scrutiny. If a person who has previous seborrheic dermatitis or an eczematous eruption is employed in an industry where he is subjected to contact with oil soap chemicals or inhalants the original condition may be aggravated by such contact and therefore be considered by the State Industrial Accident Commission as an occupational disease. Preemployment examination are of great value in excluding persons with such condition. If an individual sustains a minor injury during the course of his work and is treated by the plant nurse with an antiseptic ointment or solution or one of the antihistamine ointments to which he is sensitive a reaction may develop which will be far more extensive than the original

minor injury. If the physician first and man or nurse at the plant applies some sensitizing medication to a nonoccupational disease or injury the dermatitis which develops is considered an occupational illness, and is compensable. Before any medication is prescribed for a suspected occupational disease the diagnosis should be established and the relationship of the eruption to the industry should be proved.

Unfortunately some industrial physician consider a dermatitis as occupational merely because the type of work the patient does is frequently productive of eruptions in fellow workers. It is possible that the dermatitis which developed may have been caused by some nonindustrial exposure to substances such as hair dye, toilet articles, paint, household detergents, plants, or materials handled during the pursuit of a hobby. Careful patch testing may exclude these things, although a positive patch test does not necessarily mean that the substance which produced the test reaction was responsible for the development of the dermatitis. The test substance may have been a primary irritant. The converse of this is also true. A negative patch test is not necessarily conclusive evidence that the dermatitis is non occupational. The areas tested may not be hyper sensitive and the test may not accurately reproduce the actual conditions under which the patient worked.

The physician should have first hand knowledge of the type of work the patient does and the industrial hazards involved. In order to gain this information it may be necessary to visit the scene of operations and personally investigate the situation.

Among the various causes of industrial dermatoses are

1 Specific trauma such as fissures on the finger tips observed in those who pack glassware in striped paper or calluses on the palms of car painters.

2 Specific infections such as erysipelas observed in fishermen, sporotrichosis in gardeners, and pyoderma on the fingers of butchers.

3 Insect bites are observed in poultry workers, animal handlers, and farmers.

4 Chemical substances may produce occupational dermatoses of various types. Strong acids and alkalis are primary irritants and produce burns; other chemicals are sensitizing substances and produce eruptions similar to poison ivy dermatitis. Serious and sometimes fatal sequelae may follow prolonged exposure to inorganic arsenic, chromic acid, and other chemicals.

5 Plants of various types, including fruit vegetables, weed and flowers are capable of producing a state of hypersensitivity. Dermatitis eruptions due to Rhus plants may develop in graveyard employees, telephone linemen and gar deners.

6 Various reactions may be encountered in the synthetic rubber industry other than sensitization to the finished product. One of the component part of synthetic rubber, azobisisobutyronitrile, may produce depigmentation of the normal skin.

Temporary hair loss is another hazard of the rubber industry.

The synthesis of plastic substances involves the use of sensitizing and irritating substances such as phenolformaldehyde resin, melamine sulfonamides, colors, hardeners, and other chemical substances. The dermatitis which develops is rarely the result of contact with the finished product but is caused by handling of the component part.

The prevention of occupational dermatoses involves

1 Preemployment history and physical examination.

2 Evaluation of all possible industrial hazards in the plant with establishment and enforcement of safety regulations.

3 An adequate well-trained medical department to diagnose and treat the dermatitis at the time it develops.

4 Establishment of the occupational origin of the disease and avoidance of treatment of non occupational diseases at the person's place of employment.

5 Proper use of diagnostic procedures such as patch tests.

6 Removal of the individual from contact with the suspected causative agent the day the dermatitis develops.



## Chapter 9

# VENEREAL DISEASES

The decrease in incidence of infection and introduction of antibiotic drugs in the therapy of venereal diseases during and following World War II caused a decline in clinical and laboratory research in venerology. Recent reports indicate a sharp increase in incidence of infectious syphilis. Adequate statistics are not available for chancroid lymphogranuloma venereum and granuloma inguinale, but there is a high incidence of gonorrhea. The medical student and practitioner should have a knowledge of the more important clinical and laboratory features of these five diseases.

### Syphilis

Syphilis is a chronic relapsing disease caused by the *Treponema pallidum* (*Spirocheta pallida*) and is characterized by long periods of clinical remissions, during which the only evidence of disease is a positive serologic test. The disease is systemic within a few hours after inoculation and during its course any organ in the body may become involved. The *Treponema pallidum* is a highly refractile spiral organism 6 to 20  $\mu$  in length with 6 to 20 equidistant regular spirals. The organism rotates on its long axis and is viable in the viable state only by the use of the dark field microscope.

Following an incubation period of ten days to several weeks, the primary lesion or chancre usually appears. In untreated patients, successive stages known as secondary, latent and late syphilis may occur. The disease is not hereditary but may be transmitted to the fetus *in utero* producing congenital syphilis.

It has been estimated that approximately 25 per cent of all untreated patients with syphilis are spontaneously cured.

**Histopathology of syphilis.** The fundamental

histopathologic findings in all clinical lesions of syphilis consist of a perivascular infiltrate of plasma cells and lymphocytes, thickening of vessel walls and obliterative endarteritis. The early infiltration of polymorphonuclear leukocytes in primary syphilis is replaced by plasma cells and lymphocytes. In secondary syphilis the cellular infiltrate extends deep into the cutis. It is difficult to distinguish the chronic granulomatous picture of late syphilis from that of tuberculosis. The characteristic pathologic changes include vascular occlusion, central caseation necrosis surrounded by epithelioid cells and foreign body giant cells, and a peripheral plasma cell infiltrate.

**Primary syphilis.** The primary lesion, initial ulcer, or chancre is the first clinical lesion to appear (Fig. 18). It is usually a single ulcer with a firm base and is relatively painless, although chancres may also be soft, multiple and painful. Approximately 90 per cent of all initial lesions occur on the genitalia and the remainder on the lips, fingers (e.g., dentists, physicians) and other parts of the body. In women, the chancre usually occurs on the cervix and may be overlooked unless a speculum examination of the vagina is performed.

The chancre will heal regardless of treatment. The serologic test may not be positive until the chancre has been present 1 to 3 weeks. A positive dark field examination is the only means of establishing the diagnosis.

**Secondary syphilis.** After a few weeks to two or three months following appearance of the chancre, the patient may develop one or more signs of secondary syphilis. During this period of generalized spirochetemia every organ in the body is invaded by the *T. pallidum*.

Cutaneous lesions of secondary syphilis may be

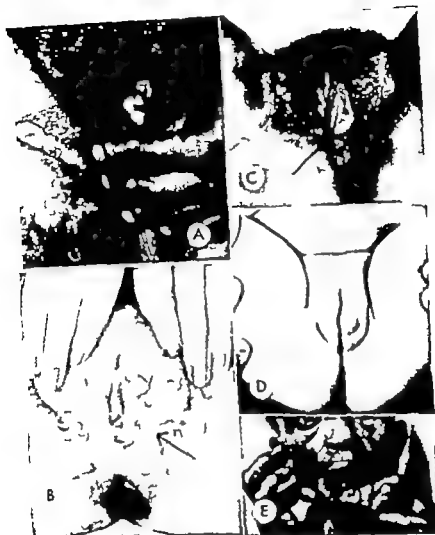


FIG. 15. A. Chancre on penis and granuloma inguinale in the right inguinal region. B and C. Chancres of vulva. D. Chancre of vulva in an infant. E. Chancre of lip.

macular papular or papular (Fig. 10). Macular syphilis is pinkish in color and simulates pityriasis rosea. Papular secondary syphilis may be recognized by the characteristic groups of small papules. Macular papular lesion frequently seen around the mouth or the larger lenticular papules. Papular lesions usually exhibit the characteristic raw tan or copper color. Hypertrophic eroded papules known as condylomata lata occur in the genitoanal and perianal areas. These moist lesions are covered with a grayish exudate and are almost invisible in dark field

positive. Postular syphilis, an uncommon manifestation, is limited to Negroes.

Occasionally more than one type of lesion is seen in a patient. The palms and soles may show infiltrated macules which have the characteristic color. The chancres may still be present when secondary lesions appear.

Syphilitic alopecia presents a characteristic moth-eaten appearance.

*Other manifestations of secondary syphilis.* Iridocyclitis may occur and usually responds well to treatment. Mucous patches are erosive lesions



FIG. 19 Manifestations of secondary syphilis lesions. A Annular papular B Papular C Moth-eaten alopecia D and F Lethymatous E Condyloma lata

of the mouth. The edema associated with syphilitic pharyngitis may cause temporary deafness by blocking the eustachian tubes. Deafness may also occur because of the swelling of the sheath of the eighth nerve.

Lipoid nephrosis is an infrequent complication of secondary syphilis. Occasionally meningitis develops in secondary syphilis, simulating acute meningitis from other causes.

The serologic test for syphilis is almost invariably positive in high titer in secondary syphilis.

**Latent syphilis.** If secondary syphilis is not treated the lesions involute and the patient enters a stage of asymptomatic infection detectable only by serologic tests. During the first two years of infection this stage is known as early latent syphilis and afterward is called late latent syphilis. This arbitrary division is for prognostic purposes, the highest percentage of serologic reversals occurring in early syphilis.

In late latent syphilis, the serologic test may remain positive for the life of the patient regardless of the amount of treatment administered.

Following the period of asymptomatic infection the patient may exhibit cutaneous or systemic late manifestations of the disease.

**Late cutaneous syphilis.** Cutaneous lesions of late syphilis are known as *gummas*. These may be solitary or multiple (Fig. 20). A solitary gumma begins usually as a subcutaneous nodule which undergoes liquefaction necrosis, forming a cup shaped relatively painless ulcer. Nodular serpiginous syphiloderma and nodulo-ulcerative syphiloderma are other forms of gummatous syphilis. Gummas respond well to treatment.

**Cardiovascular syphilis.** Syphilis causes an obliterative endarteritis of small arteries, among which are the *cava rasorum* of the aorta. Occlusion of these arteries weakens the muscular coat of the aorta, eventuating in a tortuous and dilated

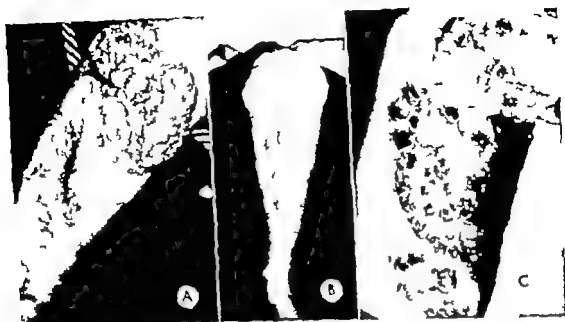


FIG. 20. A: Roentgenogram of lat. syphil. (A) Aneurysm. B: Chest roent. of lat. syphil. (B) Aortic dissection. C: Nodulo-ulcerative changes.

revel. The myocardium and aortic valve are also involved.

[*Uncomplicated syphilitic aortitis*] difficult to diagnose by physical examination. Roentgenograms are not necessarily diagnostic since syphilis is not the only disease which causes a dilated, tortuous aorta. The condition may be asymptomatic or the patient may complain of vague substernal discomfort. A tympanitic aortic second sound in a normotensive patient under 50 years of age who has a positive serologic test for syphilis, should make the examiner suspicious of syphilitic aortitis.

Aortic aneurysm occurs more frequently in Negroes than Caucasians. Patients who have been adequately treated for early syphilis are protected against the development of syphilitic cardiovascular disease.

Narrowing of the coronary ostia may cause typical symptoms of angina of effort or vague complaint of substernal discomfort. There may be no electrocardiographic evidence of the disease. Aortic insufficiency may or may not be present. Vasodilator may fail to relieve the patient. Digitalis is indicated in the presence of imminent heart failure.

Aortic insufficiency is frequently symptomatic

until the patient has the first episode of heart failure. Paroxysmal nocturnal dyspnea may be present. Differential diagnosis from hypertensive and arterio-sclerotic cardiovascular disease is difficult. The pulse pressure is widened and the diastolic pressure is low. Pulsed shot sounds are heard over the femoral artery without the use of the blood pressure cuff. A diastolic murmur is heard at the base of the heart and there may be an associated presystolic murmur at the apex (Austin-Flint). Left ventricular hypertrophy is present. Electrocardiographic changes are not specific.

Specific therapy of cardiovascular syphilis is probably of little value. The patient should be treated with supportive measures such as digitalis, salt-poor diet, limited fluids, nitroglycerine, rest, sedation, and ammonium chloride or other diuretics.

Aneurysms of the thoracic aorta are more common than aneurysms of the carotid, subclavian or innominate arteries. Syphilitic aneurysms are saccular and may grow to large size occasionally eroding through the chest wall or vertebrae. Symptoms may be absent or severe. Diagnosis is made by routine x-ray procedures and physical examination.

*Neurosyphilis.* Abnormal spinal fluid findings

occur in 5 to 7 per cent of all patients with early syphilis. Of these only few develop clinical neurosyphilis. Laboratory abnormalities in most patients represent invasion rather than involvement and demonstrate the body's reaction to the generalized spirochetosis. Adequate therapy of early syphilis protects the patient against neurosyphilis, but inadequate therapy may predispose to neurorecurrence or late forms of symptomatic neurosyphilis.

*Nonparenchymatous neurosyphilis* This implies involvement of the blood vessels or meninges, or the formation of gummatous lesions.

*Meningitis* may occur spontaneously in the first two years of infection or may follow inadequate therapy. It is characterized by cranial nerve palsies, papilledema or convulsions. Spinal fluid findings include pleocytosis and positive complement fixation tests, but the total protein and colloidal curve are usually within normal limits. It responds well to treatment.

*Vascular neurosyphilis* results from obliterative endarteritis of the small branches of the middle cerebral artery or other arteries. Symptoms are those of a focal vascular accident—the clinical syndrome depending on the area involved. Since this is a vascular lesion the cerebro-spinal fluid may be normal. This diagnosis should be suspected in a young normotensive patient whose serologic test for syphilis is positive. Response to treatment is usually good without sequelae.

*Meningovascular neurosyphilis* is the most frequently encountered form of symptomatic neurosyphilis, combining the symptoms of meningitis with the effects of vascular damage, as epilepsy, cranial nerve palsies, anisocoria, fixed pupils or vascular accidents. Prognosis is usually good following adequate therapy. Spinal fluid findings vary.

*Asymptomatic neurosyphilis* is diagnosed by laboratory findings. Every patient who has syphilis should have a spinal fluid examination to rule out asymptomatic infection of the central nervous system since the parenchyma may become involved late in the course of the disease. Laboratory findings vary.

*Gumma of the brain* may be single or multiple.

Symptoms are those of other tumors of the central nervous system and vary with the location. The blood serologic titer is usually high and the complement fixation reaction in the spinal fluid may reflect this by reagin carry-over.

*Syphilitic hypertrophic cervical pachymeningitis* is rare and treatment is of little benefit. It must be differentiated from cervical disc.

*Parenchymatous neurosyphilis* may be inflammatory or degenerative.

*General paresis* also known as general paralysis of the insane, encephalomalacia or syphilitic encephalomyelitis, is a destructive inflammatory process which if untreated will eventually kill the patient. Early symptoms include irritability, fatigability, forgetfulness, personality changes, headaches, weight loss, disturbed sleep and loss of competence. Later the memory becomes grossly impaired, judgment becomes defective and the patient suffers from emotional instability, lack of insight, confusion, disorientation, delusions and convulsions. Objective signs of paresis are pupillary abnormalities, perioral tremor, hyperreflexia, dysarthria, tremors of the tongue, hand and face muscles, and Babinski reflex.

The blood serologic test is invariably positive in high titer and the spinal fluid is strongly positive. Paresis usually develops 5 to 15 years after onset of the disease.

The most common type of paresis is simple deterioration in which there is a gradual loss of the finer qualities of personality which distinguish the individual. Expansive mania, paranoia and agitated depression also occur in paresis. Lesauier's paresis begins as focal epilepsy.

*Juvenile paresis* occurs in late congenital syphilis between the ages of 6 and 15 years.

Laresis responds to treatment with penicillin. Foyer therapy is no longer necessary or recommended except in unusual cases.

*Tabs dorsalis* or locomotor ataxia is a degenerative disease of the posterolateral columns which usually begins 20 or more years after the infectious stage of syphilis. Cerebral involvement is limited to pupillary abnormalities, extra-ocular motor palsies and primary optic atrophy.

Argyll Robertson pupils are fixed to light but

react in accommodation. They are persistently motionless and react poorly to mydriatics. The visual pathways are intact.

Early symptoms of tabes dorsalis are lightning pains, paresthesias, urinary disturbances such as dribbling and hesitancy, diminished libido and potency, cystometric evidence of loss of bladder sensation, diminished or lost deep tendon reflexes, and diminished vibratory and position sense. Later incontinence and nocturnal bed wetting may occur as well as visceral crises (gastric, rectal, bladder or laryngeal), difficulty in walking, cord bladder, trophic joint changes (Charcot joint) and ataxia.

Since tabes dorsalis is a degenerative disease the spinal fluid findings may be normal. Tabes dorsalis responds poorly to treatment.

Primary optic atrophy may occur independently or be associated with tabes dorsalis. The nerve head degenerates to complete blindness. Treatment is ineffectual.

*Arbo spastic paraplegia* is a degenerative involvement of the anterior horn cells and anterolateral tracts. The motor paralysis of extremities and bladder does not respond to treatment.

*Idiopathic syringomyelia* simulates tabes dorsalis but has no relation to syphilis. The symptom complex includes hyporeflexia of the lower extremities, and pupils which react to neither light nor accommodation.

Interpretation of serologic test for syphilis. The diagnosis of syphilis depends on careful evaluation of the patient's physical status, the history, and the laboratory findings.

Routine serologic tests for syphilis (RTS) include complement fixation and flocculation (precipitation tests).

The complement fixation reaction is Wassermann application of the Nordet-Gengou phenomenon. The test has been modified to increase sensitivity and selectivity by Holmes Eagle, and others. Patient serum is mixed with antigen (beef heart extract) and complement (guinea pig serum). Sensitized sheep red corpuscles are added as an indicator. If hemolysis takes place the test is negative.

The flocculation test depends on the formation

of a precipitate when a syphilitic patient's serum is mixed with beef heart extract. Sensitivity and selectivity of the tests depend on the degree of purification of the beef heart extract (cardiolipin) and addition of substances such as lecithin, cholesterol, and buffers. The pH and temperature also influence the reaction. Generally acceptable modifications are the Kahn-Kline, Hinton-Maximin Eagle, and Venereal Disease Research Laboratory tests.

Tests may be qualitative or quantitative. Qualitative tests are performed on whole serum and are reported as positive, doubtful or negative. Venereologists generally have discarded the system of reporting tests as one, two, three or four plus. Quantitative tests should be performed on sera reported as positive. Standard dilutions are 1:2, 1:4, 1:8, 1:16, 1:32. The titer is read as the highest dilution at which a positive test is obtained. Quantitative tests, when properly interpreted, may be of value in determining the activity of infection or results of therapy.

Spinal fluid examinations should be performed on every patient who has syphilis. In patients with early syphilis the test should be done 11 months after treatment is completed. In all other patients, the fluid should be examined before treatment is instituted unless there is a specific contraindication. In pregnancy the test may be withheld until after delivery.

Four tests should be done on every spinal fluid: cell count, total protein, colloidal curve (optional) and complement fixation reaction. Of these a positive complement fixation reaction is the only test which indicates the presence of syphilis. The cell count should be done within an hour after removal of the fluid. Normal range of cells is usually considered 0 to 10. Total protein may vary up to .05 mg. per cent, according to the method used. Cerebrospinal fluid is preferred in the colloidal curve test.

Spinal fluids may be classified as:

Group I Negative complement fixation, but abnormalities in one or more of the indices of activity.

Group II Positive complement fixation reaction with or without abnormalities in other tests.

### Group III All tests abnormal

*Treponemal immobilization tests* utilize suspensions of the *Treponema pallidum* as antigen. This test measures a specific antibody other than reagin and is more selective than the standard serologic test for syphilis. The test may be done as a complement fixation reaction or an agglutination test.

*Temporary biologic false positive tests for syphilis* may be caused by upper respiratory infections, vaccination, infectious mononucleosis, malaria, and other conditions. Moore<sup>11</sup> studies indicate that some individuals have a *persistent biologic false positive serologic test* and that this may be an indication of subclinical collagen vascular disease. It is estimated that as many as 40 per cent of asymptomatic patients with persistently positive serologic tests for syphilis but no history of infection do not have syphilis.

**Congenital syphilis:** Although syphilis is not hereditary, the fetus may be infected *in utero*. The child with congenital syphilis develops stigmas of the disease which may be characteristic.

A newborn infected infant may exhibit a bullous eruption, cutaneous eruptions of other types, or visceral involvement.

Frequently encountered stigmas of late congenital syphilis include scaphoid scapulas, high-arched palate, bowing of the forehead and saber shins. Manifestations of late congenital syphilis include interstitial keratitis, eighth nerve deafness, and Hutchinson's teeth. Interstitial keratitis and eighth nerve deafness may occur during any period of the patient's life. Hutchinson's teeth (Fig. 21) are peg-shaped, notched deformities of the

second dentition, upper central incisors. Laryngeal cold hemoglobinuria and hydrarthrosis (Clutton's joints) are other late manifestations of congenital syphilis.

The heart and great vessels are not involved in congenital syphilis. Congenital parenchymatous neurosyphilis varies in its manifestations.

**Syphilis and pregnancy:** The fetus does not become infected until after the fourth month; therefore treatment of maternal syphilis before the fifth month of pregnancy prevents transmission of infection to the child. Effective treatment may be instituted as late as the eighth month. Treatment with penicillin during any pregnancy will prevent fetal syphilis in subsequent pregnancies, unless the mother is re-infected.

**Treatment for syphilis:** Arsenic, bismuth, and mercury are no longer used in the treatment of syphilis. Early infectious syphilis may be treated with procaine penicillin. A total of 4.8 to 6 million units is administered in divided doses in 6 to 10 days. As an alternate method, the patient may be given two weekly doses of 2.4 million units of Bicillin. The same treatment regimens are sufficient for latent and late cutaneous syphilis. Patients with cardiovascular syphilis and neurosyphilis should receive approximately 10 million units of penicillin in divided doses. In the light of present knowledge, the beneficial effects of fever therapy are doubtful.

The practitioner should remember that reversal of the serologic test may be delayed or the test may remain permanently positive. A persistently positive serologic test for syphilis following adequate therapy is not an indication for retreatment.



FIG. 21. Manifestations of congenital syphilis. Saddle nose and Hutchinson teeth.

Reactions (treatment include allergic reactions to penicillin and specific reactions associated with the treatment of syphilis. The Herxheimer reaction is an intensification of syphilitic lesions or a febrile response in the first 24 to 48 hours following institution of therapy. The therapeutic paradox is irreversible damage produced by contractile scarring in the healing process.

### Gonorrhea

Gonorrhea is disease of the genitourinary tract caused by *Neisseria gonorrhoeae*.

Gonorrhea in men begins as anterior urethritis 4 to 96 hours following exposure. It is manifested by a thick yellowish purulent discharge. If the infection is untreated chronic posterior urethritis develops manifested by a scant mucous discharge. Complications may include epididymitis,

osteomyelitis, prostatitis, conjunctivitis and septicemia.

In women, gonorrheal urethritis may occur but the infection usually begins as cervicitis. Symptoms may be minimal or absent in this stage of the disease. Retrograde infections involve the fallopian tubes, causing pyosalpinx, hydrosalpinx, ectopic pregnancy, and pelvic inflammatory disease.

Diagnosis of gonorrhea in the male is made by microscopic examination of a smear of the urethral discharge stained with Gram stain. The organism is a Gram-negative intracellular diplococcus. Culture of the cervical discharge is necessary to diagnose gonorrhea in women.

Treatment with Penicillin is the drug of choice in the treatment of gonorrhea. A single injection of 700,000 to 900,000 units is sufficient. It is imperative to treat both sex partners. Cure of the



FIG. 22. A. Urethral discharge in gonorrhea. B. Discharge in left inguinal region. C. Genital distortion.



FIG. 23. A. Gonorrhea in female. B. Destruction of female genitalia. C. Destruction of male genitalia.



disease does not confer immunity against reinfection. Serologic tests for syphilis must be performed when the patient is treated and monthly for 3 months thereafter.

### Chancroid

Chancroid is a disease of the genitalia caused by *Haemophilus ducreyi*. The initial lesion is a small papule or vesicle which erodes forming a ragged ulcer with a necrotic base and undermined edges. The ulcers are usually multiple, soft and painful. Regional lymphadenopathy may develop (buboes).

*Haemophilus ducreyi* is sensitive to penicillin *in vitro* but because of the danger of masking early lesions of syphilis, sulfonamides are the drugs of choice in treating the disease.

Chancroid may be diagnosed by culturing organisms from ulcers. The Ito-Reinherm test consists of an intradermal injection of killed organisms or diluted sterilized bubo pus. A positive test is not diagnostic of active infection but indicates antibody formation.

### Lymphogranuloma Venereum

Lymphogranuloma venereum is a systemic disease caused by a filterable virus. The initial lesion is transient and is frequently ignored. Most patients with lymphogranuloma venereum are asymptomatic. The disease is disseminated through the lymphatic system. In men inguinal buboes may develop but in women the lymphatic drainage involves the deep perirectal and pudendal nodes (Fig. 22). Delayed manifestations in women may include rectal stricture.

Presumptive diagnosis is made by association of

clinical symptoms with a positive Frei test. The Frei test consists of intradermal injection of a diluted sterilized culture of the virus on chick embryo or mouse brain or of a diluted sterilized suspension of bubo pus.

Treatment of lymphogranuloma venereum is unsatisfactory. Proctitis may be controlled by sulfonamides or broad spectrum antibiotics.

### Granuloma Inguinale

Granuloma inguinale is a systemic disease usually limited to the genito-crural area (Fig. 23). It is caused by *Donovania granulomatis* (Donovan body). The disease is limited almost entirely to Negroes.

The initial lesion of granuloma inguinale is a subcutaneous nodule which ulcerates, forming a shallow indurated granulomatous ulcer. It spreads peripherally without involving lymphatics. The ulcers tend to heal spontaneously with dense deforming scars which occasionally obstruct lymphatics, causing a brawny edema known as elephantiasis. Oral, ocular and visceral lesions may occur.

The mode of transmission of granuloma inguinale is unknown. The diagnosis is made by demonstration of Donovan bodies in stained smears (Wright's or Giemsa stain) from ulcers. The histopathologic picture of stained sections of tissue from active lesions is nonspecific.

Granuloma inguinale responds to oral treatment with tetracycline, oxytetracycline, chlortetracycline, chloramphenicol and erythromycin. Streptomycin and dihydrostreptomycin administered parenterally are effective. Penicillin is of no value in the treatment of granuloma inguinale.

## Chapter 10

# PSYCHOSOMATIC MEDICINE APPLIED TO DERMATOLOGY

The relationship of the integument to internal organs and systems is emphasized throughout this text. Infiltrated plaque-like lesions on the legs may indicate thyroid-pituitary disease, and yellow nodules about the elbows or knees are associated with lipid disturbances or diabetes mellitus. Erythema marginatum may be the first manifestation of rheumatic fever. These are examples of cutaneous manifestations of organic diseases. Skin conditions which are caused by or influenced by the psyche and which, by their disfiguring appearance, cause mental aberrations are of equal importance.

### Dermatoses Directly Associated with Psychic Disturbances

The objective symptoms of the dermatoses described below are caused by the emotionally disturbed or psychotic patient.

*Tri ophobia* or *paranitrophobia* is a disorder in which the patient has delusions of parasite infestation. Pieces of detritus or epidermal debris are forcibly removed by the patient from the skin, often deeply enough to cause ulcers. These particles of material are brought to the doctor with the insistent statement that they were alive when removed. Psychotherapy is necessary for these people.

*Dermatit factitia* (*feigned eruption*, or *mal prerer d'acquer*) is deliberately caused by the patient with a desire to gain sympathy, collect compensation, or evade undesirable duty. These lesions may be excoriations or may be caused by application of caustic materials—hot metal, etc. and frequently have bizarre appearances.

*Neurotic excoriations* are the result of unconscious or uncontrollable scratching of accessible areas of the body. The lesions may be widespread or localized to a small area such as the occipital region (*localized neurodermatitis*).

*Trichotillomania* is a compulsive pulling or twisting of the hair sometimes resulting in large bald areas.

Chronic sucking or biting of localized areas by mentally defective patients causes hypertrophied lesions with excessive hair growth.

### Dermatoses Influenced by Emotional Tension

The role played by the psyche in influencing the course of dermatoses such as *alopecia dermatitis*, *seborrheic dermatitis*, *lichen planus*, and *proriasis* is obscure. The objective symptoms are usually intensified during periods of emotional tension, and patients frequently volunteer the information that pruritus increases when they are upset. Many patients state that the dermatoses cause no discomfort during working hours but begins to itch as soon as they relax physically.

Pruritus and *pruritus vulvae* are prevalent in emotionally tense patients frequently necessitating the administration of sedatives or tranquilizers as adjunctive therapy.

Although verrucae are virus infections there is a peculiar influence of the psyche on the course of the disease. Not infrequently especially in growing children warts may be "bought," "bored off," or cured by the oral administration of placebo or colored medications.

*Alopecia areata*, functional alopecia in females, *seborrheic alopecia*, vitiligo, and exfoliative cheilitis

tis are caused by or aggravated by emotional tension

*Hyperhidrosis* or excessive sweating is often a manifestation of anxiety or tension

All *allergic dermatoses* including urticaria, exhibit increased symptoms during periods of emotional tension

### Skin Conditions In Which the Cosmetic Defect Causes Psychic Disturbances

These include acne (especially where scarring is a prominent feature) multiple neurofibromatosis rosacea large nevi psoriasis alopecia bromhidrosis and congenital defects

## Chapter 11

### THERAPY

The accumulated experience of many dermatologists have resulted in a group of formulas and methods which enable the practitioner to treat most dermatoses effectively.

Local external medications include ointments, lotions, liniment, pastes and wet dressings. Antibiotics, steroids, sedatives, tranquilizers, and sulfonamides are valuable systemic therapeutic measures. Dermatologic physical therapy includes ultraviolet rays, roentgen rays, radium, cryotherapy, xanthophorens, and electro-surgery. Therapeutic agent may be classified as anti-infectious, anti-inflammatory, antipruritic, astringent, emollient, keratolytic and non-specific agent of proven empirical value.

#### SYSTEMIC MEDICATIONS USED IN DERMATOTHERAPY

**Anti-infectious agents.** Penicillin is an antibiotic of limited value in acute and staphylococcal infections but effective against most strains of streptococci. It is indicated in erysipelas, cellulitis and cellulitis.

Aqueous suspension of procaine penicillin contains 900,000 unit per cc. a single dose of which gives measurable blood level for 24 to 48 hours. Birelin (available injectable dosage forms containing 1,200,000 unit / per dose) produces measurable blood levels for at least 60 hours. Pen Vlin (or oral administration) available in tablet or capsule containing 100,000 or 200,000 unit.

Adverse reaction to penicillin therapy include naphylaxis, morbilliform or scarlatiniform eruptions, urticaria, erythema multiforme and exfoliative dermatitis.

Streptomycin and dihydrostreptomycin are indicated in the treatment of granuloma inguinale

and cutaneous tuberculosis. Eighth nerve damage is a potential hazard.

Tetracycline hydrochloride and tetracycline phosphate (Tetracycl, Panmycin Sterlin (tetracycline)) are dispensed in capsules containing 50 mg., 100 mg. or 250 mg. Suspension of these antibiotics in flavored vehicles are available for administration to children. The tetracyclines were formerly popular in the treatment of staphylococcal infections, but the development of resistant strains of organisms limit their usefulness. Small doses given over protracted period of time have been advocated as an adjunct in the management of acne.

Oxytetracycline (Terramycin) and chlortetracycline (Aureomycin) have the same actions, uses and doses as tetracycline.

Chloramphenicol (Chloromycetin) has a wide antibacterial spectrum which includes staphylococci, streptococci, spirochaetes, and other organisms. Development of bacterial resistance to the drug is rare. It is available in 50 mg. and 250 mg. capsules.

Erythromycin triacetate, erythromycin and norethron are effective against most strains of staphylococci. Repeated courses of erythromycin therapy may produce strains of microorganisms resistant to that drug.

Mycostatin (Mycostatin) tablets contain 500,000 unit each. This drug, an antifungal antibiotic has a specific action on *Candida albicans*. It is poorly absorbed from the gastrointestinal tract but may be useful in combination with tetracycline (Mylatech, Coraycin) or other antibiotics in the prevention of intestinal moniliasis.

Griseofulvin is an antifungal antibiotic, available in 50 mg. capsules or tablets. It has been proved to be an effective systemic treatment for *Micro-*

*sporium Trichophyton and Epidermophyton infections.*

*Reactions to systemic antibiotic therapy* include blood dyscrasias cutaneous or systemic moniliasis urticaria erythema multiforme purpura morbilliform eruptions exfoliative dermatitis lingua nigra perleche and monilial paronychia.

Strains of organisms resistant to any of the antibiotics may develop especially in the presence of inadequate dosage. Administration of specific antibiotic therapy should be controlled by disc or tube-dilution sensitivity tests.

Sulfacetamide sulfadiazine and sulfamerazine tablets NF (triple sulfa) contain 105 mg. of each sulfonamide. They are useful in the treatment of pyodermas and chaneroid. The combination of the three drugs is preferred because of the lessened tendency to crystalluria. Sulfapyridine available in 0.5 gm. tablets, is useful in the treatment of dermatitis herpetiformis and some bacterial infections.

Adverse reactions to sulfonamides include photosensitization fixed eruptions and crystalluria.

*Adrenocorticotrophic hormone and corticosteroids.* Indiscriminate use of adrenocorticotrophic hormone should be condemned since it is of value only in inflammatory or allergic dermatoses and its therapeutic value depends on a functioning adrenal cortex.

The steroid hormones are anti-inflammatory substances which are administered systemically to supplement the anti-inflammatory hormones produced by the adrenal cortex. Prolonged administration may cause atrophy of the adrenal cortex.

*Cortisone* (Cortom compound B) is packaged in 25 mg. tablets. *Hydrocortisone* (compound F Cortel Cortof Hydrocortone) is available in 10 and 20 mg. tablets. *Prednisone* (dehydrocortisone) and *prednisolone* (dehydrohydrocortisone) are available as 5 mg. tablets (Meticorten Sterane Co-Delta). Recently developed steroid are triamcinolone (Aristocort Kenacort) 2 mg. and 4 mg. tablets and methylprednisolone (Medrol) available as 4 mg. tablets.

The undesirable side effects of prolonged ACTH and steroid therapy include hirsutism pseudoma-

betes Cushing's syndrome hypertension psychoses electrolyte disturbances and peptic ulcers. The initial dose and maintenance dose of the steroids should be adjusted to the individual patient's needs.

*Sedatives and tranquilizers.* Control of emotional tension by systemic medication has proved to be valuable adjunctive therapy in the treatment of such dermatoses as seborrheic dermatitis neurodermatitis, lichen planus, psoriasis, pruritus vulvae and pruritus ani.

*Sedatives* include barbiturate acid derivatives such as phenobarbital (Dorval Butisol and Nembutal Bromural Placidyl and Sedamyl) are sedatives not derived from barbiturate acid. The sedative drugs are relatively inexpensive and produce few adverse reactions.

*Sedative stimulant mixtures* are anorexant and produce a sense of euphoria without over-stimulation. Syntil (Butisol and dextroamphetamine) and Ambar (phenobarbital and dextroamphetamine) are examples of this type of medication.

*Tranquilizing drugs* such as hydroxyzine meprobamate buclizine and chlorpromazine are recommended for relief of emotional tension because of their effectiveness and relative safety in administration. There is no proof of habit formation.

*Rauwolfia serpentina* and its derivatives have also been used to control emotional tension but are not recommended in the treatment of dermatologic conditions because of severe side reactions such as profound depression.

Adverse reactions to tranquilizing drugs include dryness of the oropharynx depression excessive drowsiness, and morbilliform or scarlatiniform eruptions. Jaundice has been reported as a result of chlorpromazine therapy.

*Miscellaneous systemic medication.* Calcium gluconate may be used in the treatment of erythema multiforme chronic urticaria generalized pruritus and lichen planus. Ten cc. of a 10 per cent solution is injected rapidly intravenously producing an immediate transient sensation of intense heat. This treatment should be avoided in the presence of cardiovascular disease.

*Sodium salicylate* may be of value in the treatment of erythema multiforme and erythema nodo-

sum. Enteric coated tablets containing 0.7 gm. each are recommended to avoid gastric irritation.

Inorganic trivalent arsenic is still prescribed by some physicians in the treatment of psoriasis, dermatitis herpetiformis, lichen planus, chronic eczema and other conditions. Its use is empiric and long continued administration may lead to serious sequelae. The usual form of administration are solution of potassium arsenite or Asolite pills.

Anticholinergics are theoretically of value in allergic dermatoses, but actually have little antipruritic action. They are mild sedatives and are indicated in the treatment of drug eruptions such as pemphigus reactions.

Bismuth subbismuthate in oil is given by intra-muscular injection in the treatment of lichen planus and plantar warts but is no longer indicated in the treatment of syphilis. Bismuthate is an effective oral preparation of bismuth.

Antimalarial drugs such as Chloroquin, Mepacrine, Plasmoil (and a combination of these three known as Triquin) and Amodiaquin, may be used successfully in the treatment of discoid lupus erythematosus and in the treatment and prevention of polymorphic light sensitive eruptions.

The sulfonamides, primarily intended for the treatment of leprosy and tuberculosis, are also of value in dermatitis herpetiformis. An example of this drug is Sulfonil.

Vitamins are indicated in the treatment of specific vitamin deficiencies. Large doses of vitamin C (1000 mg. daily) are indicated in pigmented purple eruptions. A combination of vitamins A and C in lozenge form (VI DOM AC oral tablets) may benefit some patients with adolescent acne.

Potassium iodide in adequate dosage, is useful in the treatment of sporotrichosis and other deep mycoses. It is occasionally used in the treatment of lichen planus. Potassium iodide aggravates the symptoms of dermatitis herpetiformis. It may produce pustular folliculitis which simulates acne.

Isoniazid and para-aminosalicylic acid (PAS) are used separately or in combination in the treatment of cutaneous tuberculosis.

Methazoxalen contains 10 mg. of drug in each

capsule or tablet. The drug is useful in the prevention of sunburn and in the treatment of vitiligo.

### Dietary Therapy

All treatment regimes for acne vulgaris should include some dietary restriction. The following foods are usually excluded:

Coffee	Eggs
Cream	Spicy food
Ice cream	Salt conifer
Peanut butter	Soft drink
Oleomargarine	Rich foods
Chocolate	Iodized salt
Tuna fish	Greasy foods
Yeast	Pastries

Food may be responsible for the production of such allergic conditions as urticaria, atopic eczema, and asthma. Skin testing is of questionable value in determining the etiologic agents.

### Topical Applications

Ointments are the most frequently prescribed form of external medication and consist of a base and active ingredients. Ointment bases may be divided into those which are water repellent, water absorbent, water miscible (any of the commercially available vanishing creams or emulsion bases) and water soluble. Vanishing creams are better suited for acute or subacute dermatoses and greasy ointments are better for chronic scaly or dry dermatoses.

Ointment bases which may be prescribed include

1. Vanishing creams (water miscible emulsions)

Almay emulsion base

Linibase

Neobase

2. Water absorbent bases

Aquaphor

Polyorb

Quintatum

3. Oleaginous bases (water repellent)

Cold cream

Petrolatum (white or yellow)

Lard

Lanolin and petrolatum (equal parts)

Hydrocarbon gel (Plastibase)

4. Water soluble base

Polyethylene glycol (carbomax)

**Lotions** are solutions or suspensions of drugs in aqueous or hydro-alcoholic vehicles to be applied to the skin without rubbing (e.g. calamine lotion).

**Liments** are suspensions or solutions of drugs in oily or waxy vehicles to be applied to the skin by friction (e.g. calamine-liment camphorated oil).

**Pastes** are emollient ointment like preparations which have the ability to absorb moisture (e.g. Lin. str. paste).

**Hot dressings or compresses** are solutions or suspensions applied by saturated dressings to inflamed, edematous or denuded areas to soothe, reduce edema or combat infections (e.g. Burow's solution).

**Baths** are solutions or colloidal suspension of medications in which the patient immerses his body. They are useful as emollients in extensive inflammatory conditions, such as exfoliative dermatitis (e.g. oatmeal or starch baths).

**Lints** are solutions or suspension of drugs in aqueous or hydro-alcoholic vehicles. They are essentially the same as lotion but are applied sparingly with an applicator or brush (e.g. Castellani's paint).

**Dusting powders** consist of active medication mixed with inert substances such as talc. Examples are deodorant powders, prickly heat powders and foot powders.

**Sprays** are medications applied by atomizers, nebulizers or pressure spray dispensers (e.g. deodorants and steroids).

**Anti-infectious agent.** Local application of antibiotic drugs which are usually administered systemically should be avoided. Systemic sensitization may be acquired by local application and may prevent subsequent oral or parenteral use of an antibiotic in severe generalized infection.

1 **Spectrocin** (neomycin gramicidin) ointment or lotion has a wide antibacterial spectrum. Indications: impetigo contagiosa, vesic. vulgaris, ecthyma and other pyoderma.

2 **Nystatin** (polymyxin B-actidione neomycin) ointment also has a wide antibacterial range. Indications: pyoderma.

3 **Mycostatin** (nystatin) ointment is an anti-fungal antibiotic of specific value in *Candida albicans* infections.

4 **Sulfonamide ointments and penicillin ointment** should be avoided because of sensitization reactions.

5 **Antifungal ointments** include commercial preparation such as *Dermex Salusol Soporal* and *Mycozol*. It is doubtful whether these preparations are fungicidal *in vivo* although they are prescribed for all types of superficial mycoses.

6 **Ammoniated mercury ointment**

Ammoniated mercury	1.5 (5 per cent) or 0.6 (2 per cent)
Liquid petrolatum	0.3
White ointment q	80.0
Melt ung	

This is a useful and economical antibacterial and antifungal preparation.

### Local application of steroids

1 **Hydrocortisone ointment and lotion** Cortril Cortel Cort Danc 0.1 per cent or 1.0 per cent are useful in the treatment of allergic and inflammatory dermatoses. Indication: atopic dermatitis, seborrheic dermatitis, neurodermatitis.

2 **Hydrocortisone-antibiotic combination ointments** (Terra-Cortril Neocortel Cortisporin). Indications: secondarily infected allergic or inflammatory dermatoses.

3 **Other combinations** of hydrocortisone include Vioform Hydrocortisone cream and Cor Tar Quin advocated for use in chronic eczematous conditions.

4 **Triamcinolone ointment and lotion** (Meli-Derm Hydreltra ointment) 0.5 per cent and Magnacort ointment 0.5 per cent. Also supplied in combination with antibiotics. Indications: same as hydrocortisone.

5 **Fludrocortisone ointment and lotion** (Florinef F-Cortef) 0.1 per cent and 0.5 per cent. Also supplied in combination with antibiotics. Indications: same as hydrocortisone.

**Antipruritics.** Antipruritics are local anesthetics or counter-irritants which reduce itching. The following prescriptions are examples of the various types:

Phenol	1.5 (2.5 per cent)
Olive oil rectified oil q	100.0
Melt sol	

The concentration of phenol may be varied from 1.0 per cent to 5.0 per cent.

R Menthol	0.45 (0.25 per cent)
Alcohol 70 per cent q	180.0
M et ft sol	

The concentration of menthol may vary from 0.1 per cent to 0.5 per cent. If desired olive oil may be used as the vehicle instead of alcohol. Combinations of phenol and menthol may be prescribed.

R Phenol	1.2
Petrolatum q	60.0
M et ft ung	

This is a simple effective antipruritic

R Menthol	0.1
Zinc oxide	10.0
Bentonite	8.0
Talc q	100.0
M et ft pul	

This is a dusting powder useful in such conditions as in hærma rubra.

R Zinc oxide	10.0
Neosalicylan	10.0
Bentonite	8.0
Phenol	2.7
Lime ter q	180.0
M et ft sol	

This is a variation of calamine lotion. If a white lotion is desired, talc may be substituted for the neosalicylan.

R Zinc oxide	15.0
Talc	15.0
Castor oil	
Lime ter as q	180.0
M et ft launget	

This preparation may be used if calamine lotion produces a severe drying effect.

R Liquor carbonis detergens	2.4
Alma emulsion base q	60.0
M et f ung	

This cream is useful in seborrheic dermatitis and chronic or subacute eczema. If desired one or two per cent crude coal tar may be prescribed in an oleaginous base instead of this cream. Oil of cade is used for the same purpose.

A tringent and mollient These loosely used term denote preparations for application to intensely inflamed or edematous surfaces

R Barrow solution (solution of lithium acetate)	
Lead a wet compresses, diluted 1 to 1 to 1 to 12	
R Sat rated solution of boric acid	
Mildly antiseptic soothing wet compresses	
R Oatmeal baths	

These may be prepared by mixing a cup of cooked oatmeal with  $\frac{1}{2}$  tub of water swirling uncooked oatmeal in a cloth bag in the water or by using a prepared oatmeal extract such as Aveeno or "Olated" Aveeno

R Starch baths	
May be prepared with cooked starch or Linat starch	
R Boric acid	6.0
Petrolatum q.s.	60.0
M et ft ung.	

Danger of percutaneous absorption of boric acid is minimal. This is a useful preparation. Keratolytic discolours or softens horny tissue and are used in scaly or calloused conditions.

R Precipitated sulfur	3.0
Salicylic acid	3.0
Liquor carbonis detergens	2.4
Alma emulsion base q	60.0
M et ft ung	

Indications: seborrheic dermatitis, tinea circinata, chronic eczema

R Salicylic acid	1.8
Benzole acid	3.6
Lanolin	15.0
Petrolatum q.s.	60.0
M et ft ung	

This is modified Whitfield's ointment used in epidermophytosis.

R Salicylic acid	3.0
Ammoniated mercury	3.0
Liquid petrolatum	15.0
Petrolatum q.s.	60.0
M et ft ung.	

This is a soft ointment intended for heavily crusted scalp conditions and pruritus.

R Salicylic acid	10.0
Flexible collodion q.s.	30.0
M. et ft. sol	



This should be applied to the surface of corns calluses and plantar warts to soften the horny layer

R Salicylic acid	2 0
Resorcinol monoacetate	4 0
Ether	8 0
Glycerin	8 0
Alcohol 80 per cent q.s.	180 0
M et ft sol	

This scalp lotion may be perfumed or colored if desired

R Fontex (cake and cream shampoo)

Useful in seborrheic dermatitis: especially when the scalp is oily

### Parasiticides

R Lotion benzyl benzoate (20 to 25 per cent)	180 0
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This is used in the treatment of scabies and pediculosis. The lotion is applied twice daily for 3 to 5 days

R Sulfur precipitated	12 0
Lard q.s.	120 0
M et ft ung	

Sulfur ointment is an effective method of treating scabies but is greasy and more difficult to apply than benzyl benzoate.

R Chlorophenothan (DDT)	8 0
Talc q.s.	100 ■
M et ft pulv	

This dusting powder is used in the treatment of pediculosis

### Miscellaneous pharmaceuticals

R Suspension selenium sulfide (Selsun suspension)	120 0
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Indicated in seborrheic dermatitis when the scalp is dry and scaly. Printed instructions on the label should be followed

R Vioform Quinol and Steroids ointment

These halogenated derivatives of hydroxyquinoline are useful in chronic eczematous eruptions

R Kummerfeld lotion (camphorated sulfur lotion)	180 0
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Commercial preparations as *Resolin Solfocin* and *Pronac* are more effective and more pleasant to use in the treatment of acne vulgaris.

R Alkaline aromatic solution	120 0
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Diluted 1:4 with water this is a pleasant soothing mouth wash

R Tashan cream	30 0
or	
Vitamin A and D ointment	45 0

These are vitamin creams recommended for superficial burns, ulcers, radiodermatitis and chronic eczema

R Laser paste (zinc oxide paste)	120 0
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Excellent for occlusive dressings or emollient paste in exudative eruption

R Resin of podophyllin 25 per cent in compound tincture of benzoin

Used in the treatment of venereal warts

### Cryotherapy

*Cryotherapy* is the treatment of skin lesions by the application of intense cold using solid carbon dioxide, ethyl chloride, *frigiderm* or liquid nitrogen. Warts, superficial hemangiomas, skin tags and creeping eruptions are dermatoses which may be treated by this method

Solid carbon dioxide may be procured in cake form or manufactured in the office by the use of the Kilde apparatus

Ethyl chloride is recommended as a freezing spray in the treatment of creeping eruption. Because of its toxic effects it should not be used to freeze tissues of the face in dermabrasion techniques.

*Frigiderm* (Fron) is a relatively nontoxic freezing agent which is recommended for use in dermabrasion.

Liquid nitrogen is applied by a large cotton applicator to warts, seborrheic keratoses, and skin tags.

*Hypo-allergic cosmetics* are manufactured by several companies and are available in ethical pharmacies and department stores.

Cotton gloves should be worn constantly by the patient with severe hand eczema. When immer-

tion in soapy water, detergents, disinfectants or solvents is necessary. The cotton gloves should be covered with rubber gloves. Fabric-lined rubber gloves may be irritating. The cotton gloves should be washed with a bland soap and thoroughly rinsed with clear water.

#### Specific Instruction Sheet for Patient

##### Acne vulgaris.

1. The acne diet is not meant to be a reducing diet. It eliminates certain foods which are thought to affect acne patients adversely. Weight may be regulated by increasing or decreasing such starchy food as bread, rice, potatoes, macaroni and spaghetti.

2. Do not squeeze or pick pimples. Permanent scarring may result from careless handling of such lesions. Let your doctor treat any that may need attention.

3. Keep your bowel habit regular. Get plenty of sleep and drink large quantities of water and milk.

4. Wash face three times daily with warm water and soap. If medicated soap has not been prescribed, use a bland toilet soap for this purpose.

5. Use the lotion or cream prescribed. Do not use patent medicines.

6. If your face becomes excessively dry, notify your doctor.

If home ultraviolet treatments are prescribed, a ball type source may be used (R-8 Lamp). The lamp should be placed 30 inches from the surface of the body. The first exposure should not exceed 2 minutes, front and back, and the exposure should be increased one minute each day to a limit of 15 minutes. Treatment should be given every other day or twice weekly. Goggles must be worn to protect the eyes. Sunglasses do not give sufficient protection.

8. If x-ray treatments are being given, use no local medication without specific instructions from your doctor. X-ray treatment properly administered, does not cause scarring.

##### Prodermas.

1. Your condition is contagious.

2. Do not go to school or work until lesions are healed.

3. Scratching may spread the infection to other parts of your body.

4. Keep your washcloth and towel separate. These should be boiled after each use.

5. Soak crusts off the lesions with a compress of warm boric acid solution.

6. Apply medication prescribed by your physician.

#### Physical Therapy

**Radiotherapy.** The indications for radiotherapy in dermatology have diminished considerably since the advent of the antibiotics and corticosteroids, but the application of ionizing radiations remains an important part of dermatotherapy and is still the treatment of choice in some benign and malignant dermatoses.

Röntgen rays are generated in vacuum tubes when fast moving electrons are stopped suddenly by impingement against a target. The speed of the electrons is regulated by the voltage which thus controls the penetrating power or quality of the x-rays produced. The materials through which the rays must pass before reaching the surface of the body (filtration) also influences quality by absorbing a relatively high proportion of the softer less penetrating rays. Radiations generated at 100 peak kilovolts (KV) or less are adequate for almost all dermatologic purposes.

Intelligent selection of the quality of radiation appropriate for treatment of a given dermatosis depends on understanding of the nature and depth of the pathologic process. It is desirable, perhaps essential, to use as soft a quality as is compatible with adequate treatment of the disease, in order to protect underlying organs and structures from unnecessary radiation. It must be remembered that the effect of ionizing radiations is always to do damage and that successful radiotherapy depends on production of adequate damage to a disease process without causing permanent or irreparable damage to normal tissues. This is especially important over such radiosensitive structures as the eye, gonads, and bone-marrow.

Superficial x-rays generated at 50 to 100 KV are needed for relatively deep processes. In x-ray epilation of the scalp for trichotillomania, an epilating dose must be delivered to the hair-bulbs at a

depth of almost 5 mm so that the use of too soft a quality would necessitate too high a surface dose. The depth of the skin changes in psoriasis is usually not more than 1 mm so that in treating psoriasis of the scalp or scrotum one should use a quality of radiation which will be absorbed within the first few millimeters. For this and similar purposes much softer rays are used such as the ultra soft x rays generated in the 20-KV range and the Grenz rays, which are x-rays generated at about 8 to 15 KV.

Thorium  $\lambda$ , a naturally occurring isotope of radium with a half life of 3.64 days, is useful in treating superficial dermatoses. In its decay it produces a large percentage of energy as alpha rays and much smaller percentages as beta and gamma rays. These alpha rays are absorbed within the first 80 to 90  $\mu$  of skin but some of the thorium  $\lambda$  enters the hair follicles and sweat ducts, so that some effect is produced at depths of 1 to 2 mm. It is generally accepted that the alpha rays account for the therapeutic effects of thorium  $\lambda$  which resemble those of soft to medium Grenz rays. The principles of radiologic safety must be observed in handling thorium  $\lambda$ . It is used primarily to treat port wine nevus or small areas of neurodermatitis.

Beta and gamma rays from radium and other sources, are used occasionally. Beta rays are electrons which are absorbed superficially at depths depending on the initial energy of the particles and therefore on their source. Within their range of penetration they evoke intense ionization. Gamma rays are highly penetrating, this power varying with the source. They are usually used in dermatology at very short source-tissue distances since their intensity falls off rapidly in accordance with the inverse square law. Radium is used to treat hemangiomas and carcinomas.

There is evidence that ultraviolet rays may also be ionizing although they are absorbed almost entirely in the upper epidermis. The cumulative effects of sunlight on the skin such as farmer-sunburn skin and keratoses result from repeated exposures to ultraviolet rays.

The safe use of radiotherapy of any quality or kind demands accurate control of dosage. Every

x ray or Grenz-ray machine must be calibrated individually by a radiation physicist preferably with the power source on which it is to be operated. Calibration should ordinarily be repeated at yearly intervals. X ray dosage is given in terms of roentgen units and quality. Dosage of beta and gamma radiation may be expressed in roentgen equivalents or in milligram or millieinstein-hours whereas that of thorium  $\lambda$  is expressed in microcuries per cubic centimeters and controlled by watching the effect on the disease process.

All ionizing radiations accelerate the aging process in the skin the degree depending on the quality and amount of the radiation. The ultra violet rays in sunlight are known to produce premature wrinkling, telangiectasia and keratoses which can eventuate in squamous cell carcinoma. High dosage of Grenz rays can cause superficial atrophy and telangiectasia but has not been reported to produce any of the more severe radiation sequelae. Conventional x rays, beta rays, and gamma rays in high dosage are capable of causing all of the effects mentioned plus sclerosis, keratosis, ulcer and carcinoma. These radiations cause pigmentation. The development of any of these undesirable reactions can be diminished considerably by fractionation using multiple small doses instead of a single massive dose.

The following diseases require x rays in the 50 to 100 KV P range for effective radiotherapy: tinea capitis, some epithelioma, tumors of granularoma fungoides, and cystic acne.

Very soft radiations such as Grenz rays and thorium  $\lambda$ , may be effective in psoriasis, lichenified dermatitis, lichen planus, hemangiomas, leukoplakia, subcorneal dermatitis, keratosis follicularis, superficial epitheliomas, intraepidermal carcinomas, superficial basal cell cancers and the premycotic stage of mycosis fungoides.

Gamma rays have been successfully used in the treatment of hemangiomas. Interstitial radium has been used in treating skin cancers.

Cathode rays, fast electrons generated in Van de Graaf and other particle accelerators have been used recently for the treatment of advanced stages of cutaneous lymphomas and for other derma-

10-000 This treatment shows great promise but it is still experimental.

Topical application of cortico-steroids during and after high-dosage therapy of epitheliomas and other circumscribed lesions seems to reduce the inflammatory reaction significantly without blocking the radiotherapeutic effect.

Some other physical agents also play important roles in dermatologic therapy. Damped high-frequency oscillating current is used for the fulguration (external spark) or desiccation (internal) of warts, moles, keratosis, skin tags, and carcinomas. Electrolysis, the passage of a small direct current through the tissues so that sodium chlo-

ride is hydrolyzed and sodium hydroxide is formed at the negative electrode, may be employed to destroy small moles and superfluous hair. Intense cold may be applied with solid carbon dioxide ( $-78^{\circ}\text{C}$ ) or liquid nitrogen ( $-195^{\circ}\text{C}$ ) in the treatment of warts, moles, and hemangiomas.

Ultraviolet rays are of value as adjunctive therapy in psoriasis, alopecia areata, acne vulgaris, and occasionally in chronic eczemas. Erythema doses of ultraviolet benefit psoriasis recalcitrant to x-ray. This modality is contraindicated in exfoliative dermatitis, lupus erythematosus, acute eczemas, dermatitis venenata, and polymorphous light eruptions.



PART 2

*Morphologic Dermatology*

## Introduction to Part 2

Some dermatoses which have been described as *specific diseases* are probably *morphologic entities* representing *reaction patterns*. The type of cutaneous response elicited by a stimulus cannot be predicted and varies in different persons (Chart 2). The reason for this variation in reaction pattern is unknown.

It is essential to obtain a good history, perform a thorough physical examination and if possible confirm the clinical diagnosis with laboratory findings. The history and the morphologic changes should indicate the necessary laboratory studies.

To make a morphologic diagnosis:

1. Examine the entire skin surface in a good light.

2. Search carefully for a typical primary lesion (macule, papule, vesicle, pustule).

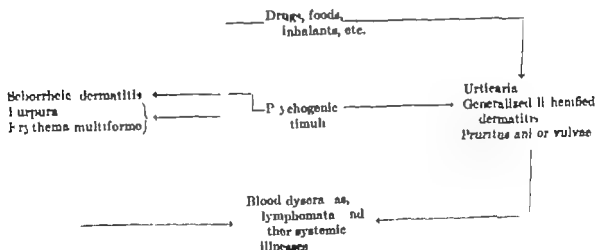
3. Ask yourself the following questions:

- What secondary lesions are present (scales, crusts, fissures, scars, etc.)?
- What special configurations are present (annular, umbilicated, groups, etc.)?
- Are the lesions acute or chronic?
- Is the skin surface edematous or lichenified?
- Are the lesions sharply defined or ill-defined?
- Are lesions sessile or pedunculated?

After the examination is complete, look under the appropriate heading in the following sections and study the lists and the differential diagnosis charts. Confirm your diagnosis with the indicated diagnostic aids.

CHART 2

*Precipitating Agent is (Trigger Mechanism)*



## Chapter 12

# REGIONAL INVOLVEMENT BY COMMON DERMATOSES

**Anus and perianal areas.** Atopic dermatitis, neurodermatitis folliculitis, condylomata lata condylomata acuminata, tinea cruris, contact dermatitis, furunculosis, pediculosis pubis, monilia.

**Breasts.** Contact dermatitis, tinea versicolor Paget's disease folliculitis, scabies, seborrheic dermatitis eczema.

**Chest and back.** Seborrheic dermatitis acne vulgaris and acne conglobata, pustular folliculitis, tinea versicolor seborrheic keratoses, proriasis, secondary syphilis, neurotic excoriations, pityriasis rosea miliaria rubra neurofibromatosis, herpes zoster dermatitis herpesiformis, keratoses follicularis pediculosis vestimentorum, urticaria.

**Ears.** Seborrheic dermatitis, neurodermatitis infectious eczematoid dermatitis, chondrodermatitis nodularis chronica helices, contact dermatitis epitheliomas, pemphig, varicel, gout.

**Eyelids.** Contact dermatitis, xanthelasma, hordeolum, eczema, seborrheic dermatitis epithelioma molluscum contagiosum, milia.

**Face.** Acne vulgaris, rosacea, milia, lupus erythematosus, epithelioma, seborrheic dermatitis, seborrheic keratoses, erythema multiforme, lupus vulgaris sarcoid, nevus, angomas herpes simplex, herpes zoster secondary syphilis, molluscum contagiosum chloasma, vitiligo, freckles.

**Extremities.** Dermatitis eumata, ecchyma, urticaria, proriasis, lichen planus erythema multiforme erythema nodosum, ichthyosis keratoses palmis, purpura, tinea dermatitis atopic eczema, scabies verruci vulgaris.

**Genitalia.** Syphilis (chancre condylomata lata, mucous patches) chaneroid lymphogranuloma venereum, granuloma inguinale condylomata acuminata, balanitis, lichen planus carcinoma, dermatitis venenata, kraurosis vulvae moniliasis neurodermatitis scabies herpes progentialis tinea cruris.

**Hands and feet.** Contact dermatitis, epidermophytosis, epidermophytid, vitiligo, scabies hyperhidrosis dyshidrosis erythema multiforme eczema, syphilis, dermatitis repens, verruca, paronychia.

**Lips and mouth.** Herpes simplex, aphthous stomatitis, leukoplakia carcinoma, lingua nigra, chancre mucous patches perleche Fordyce's disease, urethral retention cyst, lupus erythematosus, transitory benign plaque, avitaminosis, lichen planus.

**Neck.** Lichen simplex chronicus, neurodermatitis, seborrheic dermatitis, dermatitis venenata papilloma colli, acne keloid.

**Nails.** Moniliasis leukonychia, onychia, onychomycosis, paronychia, proriasis, syphilis, argyria congenital absence of nail, spoon nail.

**Scalp.** Alopecia (areata senile traumatic idiopathic premature) seborrheic dermatitis keratoses, scleroderma, dermatitis venenata, proriasis, tinea capitis lupus erythematosus pediculosis capitis, verruca, noli, sebaceous cyst, folliculitis.

**Trunk.** Dermatitis venenata, pityriasis rosea seborrheic dermatitis, atopic dermatitis, lichen planus, urticaria, herpes zoster syphilis, pediculosis, exanthemata fungus infections.



## Chapter 13

### DIFFERENTIAL DIAGNOSIS CHARTS

#### ANNULAR LESIONS—MACULES

Disease	Sites	Secondary lesions	Special characteristics	Etiology	Diagnostic tests
<i>Idiopathic</i> <i>rosacea</i>	Trunk and extremities. Rarely on the face	Collarette of scale which peels toward the margin	Lesions fall in lines of cleavage. Herald patch frequently present. May form papules.	Unknown	None
<i>Tinea trichotricha</i>	Trunk, face, extremities	Dry scale. Elevated crusted margin. Vesicles may be present in the margin.	May form concentric ring.	Fungi	Examination of scrapings and culture
<i>Erythema multiforme</i>	Palm and soles. May be generalized.	None	Iris or target lesions.	Drug sensitivity. foci of infection. May be seasonal.	Biopsy
<i>Seborrheic dermatitis</i>	Scalp, face, inter scapular area, presternal region, genital area.	Oily yellowish scale.	May form faint, outlined lesions on forehead.	Unknown	Biopsy
<i>Purpura annularis telangiectodes</i>	Lower extremities	None	Purpuric lesion. Persistent brown pigment on follow-up. Involution of lesions.	Unknown	Biopsy

## ANNULAR LESIONS—PAPULES

Disease	Site	Secondary lesions	Special characteristics	Etiology	Diagnostic tests
Secondary syphilis	On the face particularly about the nose and mouth	Blight scale (margin)	Color is brownish red. Each margin is composed of small segments	<i>Syphilobacter pallidus</i>	Dark field serologic test for syphilis etc
Erythema multiforme	Palms, soles, and generalized	None	Target lesions. Macules and vesicles may also be present	Drug sensitivity (site of infection and seasonal variation)	Biopsy
Lichen planus	Flexor surfaces of forearms particularly mouth	Adherent, scant scale	Formic flares groups of lesions. Umbilicated lesions and reticulated leukoplakia	Unknown Associated with emotional tension	Biopsy
Eczema	Generalized	None	Lesions may form pseudopods and are transient	Sensitivity reaction or pruritus (hormonal stimuli)	Intradermal scratch or passive transfer test Biopsy
Granuloma annulare	Usual over bony prominences	None	Lesions may involute after segment is removed for biopsy	Unknown	Biopsy
Paronychia	About the nose or mouth hands and elsewhere	Lesions may be central	Frequently associated lesions (bones of fingers, not long)	Unknown	Biopsy
Furunculosis	Scalp elbow lower trunk Rarely on face	Profuse silvery scale	Linear groups may occur Bleeding spot to follow removal of scale	Unknown	Biopsy
Pityriasis rosea	Trunk and extremities Rarely on face	Collaret of scale which precedes and the margin	Lesions fall (lines of line age herald patch frequently present)	Unknown	None

## ANNULAR LESIONS—VESICLES

Disease	Site	Secondary lesions	Special characteristics	Etiology	Diagnostic tests
Erythema multiforme	Mouth genitalia trunk	None	Macules and papules may also be present Relapses frequent Potentially serious	May be caused by drug sensitivity (site of infection, or may be seasonal)	Biopsy
Pemphigus vulgaris	Mouth trunk genitalia	Crust erosions	Nikolsky sign present Patient seriously ill	Unknown	Biopsy
Dermatitis herpetiformis	Trunk and extremities	Furunculosis and blood crusts. Hyperpigmentation	May form groups of vesicles Small papules may be present	Unknown	Biopsy
Impetigo contagiosa	Face and other sites	Blood and pus crust	Clear or hyperpigmentation on involution	Staphylococcus or streptococcus	Culture

## LINEAR GROUPS

Disease	Primary lesion	Sites	Secondary lesions	Subjective symptoms	Etiology	Diagnostic tests
Poisoning	Papule. When scales are removed it is a macule.	Elbows, knees, trunk, scalp. Rarely on face.	Profuse silvery white scale. When removed bleeding points are present. Forms annular lesions.	None or moderate itching.	Unknown.	Biopsy.
Lichen planus	Papule. May form annular and umbilicated lesion.	Flexor surfaces of forearms, genitalia, mouth, trunk.	Scant adherent dry scale.	Mild to intense itching.	Unknown. Emotional tension is associated.	Biopsy.
Verruca plana juvenilis	Flesh-colored or light brown papule.	Most common on the face. May occur on extremities.	None.	None.	Virus.	Biopsy.
Ichthyosis	Papule.	Genitalia, face and extremities.	None.	None.	Unknown.	Biopsy.
Dermatitis venenosa	Vesicle.	Exposed surfaces.	Blood crusts, serous crusts and secondary pyogenic infection with pustules.	Intense itching.	Contact sensitivity.	Patch tests.
Lichen striatus	Papule.	Usually on the extremities as a continuous broken line.	Blood crusts.	Mild itching.	Unknown.	Biopsy.
Nevus lateralis	Papule. Flesh colored or brown.	Face, trunk or extremities.	None.	None.	Congenital.	Biopsy.

## GROUPED VESICLES

Disease	Sites	Type of grouping	Subjective symptoms	Etiology	Diagnostic tests
Herpes zoster	Unilateral following nerve distribution	Round or oval groups of deep tense vesicles on inflamed edematous base	Not recurrent Itching or pain May have severe postherpetic pain	The same virus which causes varicella	Tissue culture
Herpes simplex	One or more groups, most common occur on lips or genitalia	Round or irregular groups of flaccid superficial vesicles. Frequently covered by serous crust	Recurrent in same site frequently Itching	Virus	Tissue culture
Dermatitis eczematosa	On surfaces exposed to irritants	Linear groups of vesicles on edematous base	Moderate to severe itching	Contact sensitivity	Pat h test
Dermatitis herpetiformis	Trunk and extremities	Angular lesions and ringed groups. Post inflammatory melanin deposit	Intense itching	Unknown	Biopsy potassium iodide pat h test
Pemphigus vulgaris	Mucous membranes, face, trunk and extremities	Annular lesions Flaccid vesicles which rupture easily & leave scars	Melancholy Difficulty in swallowing if mucous membranes are involved	Unknown	Biopsy
Lymphomatous erythroderma	On any part of body	Round or irregular groups of lymph vesicles covered with hyperkeratosis	Pain	Congenital	Biopsy

## UMBILICATED LESIONS

Disease	Sites	Primary lesion	Special characteristics	Etiology	Diagnostic tests
Molluscum contagiosum	On part of body	A pearl globular papule	The molluscum body may be pressed from the lesion	Virus	Biopsy
Eczema planum	Flexor surfaces of forearms, popliteal, lateral antrons	A violaceous flat topped papule	Linear groups of annular lesions formed	Unknown Emotional tension associated	Biopsy
Verruella	Generalized	Vesicle then pustule	Not true umbilication because it is not formed until the vesicle breaks	Virus	Self limited disease Tissue culture
Verruosa	Generalized	Macule then papule then vesicle and finally short pustule	Patient violently ill	Virus	Tissue culture
Parapoxvirus Mucosa Herpesina	Generalized	Papules, macules and vesicles occurring at same time	Chronic condition Self limited	Unknown	Biopsy
A primary cell carcinoma	Generalized	Vesicles and vesicopustules	Occurs only in type adjusted cells	Herpes simplex virus	Tissue culture

## EXCORIATED LESIONS

Condition	Sites of predilection	Primary lesion	Secondary lesions	Special morphologic features	Specific laboratory or other diagnostic tests
Dermatitis irritati- formis	Trunk	Vesicles and papules	Excoriations blood crust hyperpigmenta- tion	Grouped vesicles annular lesion arciform lesions	Biopsy Potas- sium iodide patch test
Dermatitis venenarum	Exposed part of body	Vesicles	Excoriations blood crusts serous pyogenic infec- tion	Linear groups of vesicles on in- flamed edematous base	Patch tests
Hodgkin's disease	Generalized	Lichenified macu- lar eruption	Blood crusted ex- coriations	Generalized lymphadenop- athy Herpeti- c eruptions may develop	Biopsy of skin and lymph nodes Blood picture
Lichenia urtic- aria	Localized or gen- eralized	Lichenified plaques nod- ules or tumors	Blood crusted ex- coriations	May resemble neurodermatitis	Biopsy of skin Sternal marrow studies Blood picture
Neurotic ex- coriation	Any area within easy reach of the hands	None	Deep blood crusted excoria- tions	Pink or white scars may be present in addition to new lesions	Larchitrile ex- amination
Pediculi capitis (head lice)	Scalp forehead and back of neck	None	Excoriations cov- ered with serous blood and pus crusts	Ova attached to scalp hair by chitin Live parasites may be found	Microscopic ex- amination of ova attached to hair
Pediculi pubis (pubic lice crab lice)	Pubic area lower abdomen but- tocks eyelashes and axillae	None	Blood-crusted ex- coriations and pus-crusted le- sions	Parasites are at- tached to skin and resemble freckles in the pubic area Brownish ova attached to hairs	Microscopic ex- amination of ova attached to hair
Pediculi corporis (body lice crab lice)	The trunk	None	Blood-crusted ex- coriations Furuncles and pus-crusted le- sions	Parasites present in seams of the clothing	Microscopic ex- amination of parasites
Scabies	Between fingers palm wrist buttocks male genitalia Not on face	Vesicle	Blood serous and pus crust	Dotted line in vesicle (burrow)	Microscopic study of vesicle contents for larvae and eggs
Papular urticaria	Face trunk and extremities	Papules and papulovesicles	Blood crusts serous secondary pyo- dermia	Some lesions may have central pus crusts	Clinical appear- ance
Atopic eczema	Face trunk flex- ures	Maculo papule or vesicle	Scabs crust fi- stules lichenifica- tion secondary pyogenic infec- tion	History of atopy	None
Jaundice	Generalized	Icteric tint to skin and sclerae	Linear blood crusted excoria- tions	Systemic illness	Liver function studies

# ULCERS



Fig. 24. A Black ulcer B Sickle cell anemia ulcer C Tropical ulcer

Condition	Site	Morphologic features	Specific laboratory or other diagnostic procedure
Blastomycosis	Face hands feet et	Gro ulcematous ulcer which slowly spread peripherally numerous small pustules in margin of ulcer	Biopsy Culture on blood agar Direct microscopic examination of exudate
Bromoderma	Legs	Granulomatous ulcer resembling blastomycosis	Biopsy Rule out blastomycosis by direct examination and culture Blood bromide
Charcot	Genitalia	Papule or vesicopustule which becomes superficial irregular soft ulcer with granular base covered with pus In genital lymph nodes are enlarged (bubo)	Culture on dehydrated rabbit's blood II test
Thermal burn (third degree)	(Arm) part of body	Well defined ulcer covered with adherent crust which eventually separates leaving a red, granulomatous base	History
Frost bi	Ears nose fingers and toes	Erythema edema, blisters and gangrene The resulting ulcers are superficial or deep	History of exposure
Rosigien dermatitis (advanced)	On the irradiated area	The ulcer superficial and is surrounded by zone of atrophy and telangiectases	Biopsy
F. troph	Legs buttock vulva et	One or more well defined ulcers covered with pus crust and surrounded by zones of erythema Heal by scar formation	Culture
Epithelioma (basal cell)	Face and ears	Begins as small papule or nodule Grows slowly and spreads peripherally The ulcer is usually shallow and dry and is surrounded by pearl rolled margin	Biopsy
Epithelioma squamous cell	Face lip hands etc	Resembles basal cell type but grows more rapidly Superficial or deep ulcer with granulomatous irregular fungoid central portion high bleeds freely on light trauma	Biopsy

## ULCERS—continued

Condition	Sites	Morphologic features	Specific laboratory or other diagnostic measures
<b>Facilito ulcers</b> (self inflicted)	On area accessible to hands	Single or multiple sharply defined regular or irregular <i>asymmetrical</i> superficial or deep ulcers. Old lesions heal and new ones constantly appear.	Histopathologic examination
<b>Gummatous ulcers</b>	Genito-crural area and perineum	Papule which ulcerates and spreads peripherally. The ulcer has a granulomatous base and a raised rolled margin. Marked destruction of skin and subcutaneous tissue.	Microscopic examination of Wright or Giemsa stained smear of marginal tissue for Donovan bodies.
<b>Healing ulcer of foot</b> (malignant)	Plantar surfaces over first or fifth metatarsophalangeal joints	Lesion begins as a callus like thickening resembling a plantar wart. Eventually the callus covers a deep ulcer which may extend to the bone.	Serologic test for syphilis. Smear fluid examination. Blood picture. Neurologic examination. Blood sugar.
<b>Skin-cell carcinoma</b>	Lateral aspect of distal third of leg	Round or oval punched out ulcer with indurated slightly raised edges and a profuse purulent discharge.	Blood studies
<b>Stasis ulcer</b>	Lower third of legs near the ankles	One or more irregular superficial or deep ulcers with profuse seropurulent discharge. Usually surrounded by a zone of stasis eczema.	Clinical appearance
<b>Syphilis (chancre)</b>	Genitalia lips nipples, etc.	A single hard indurated ulcer with scant discharge. Satellite lymph nodes are enlarged, hard and painless.	Dark field serologic test for syphilis
<b>Syphilis (ecthyma)</b>	Trunk scalp and extremities	Large round flat pustules with reddish brown areola. A thick crust forms over the resulting ulcer.	Serologic test for syphilis. Dark field examinations.
<b>Syphilis (gumma)</b>	Legs forehead scalp, etc.	Begins as a rounded subcutaneous nodule or tumor which develops central necrosis, sloughs and forms a deep ulcer with precipitous sides (punched out).	Serologic test for syphilis
<b>Tuberculous ecthyma</b>	Face and neck	A round or oval well defined shallow or deep ulcer which bleeds easily. Nodules are present in the margin.	Biopsy
<b>Tuberculous ecthyma</b>	Legs principally on the calves	Begins as a deep-seated slowly growing nodules which ulcerate. The ulcers are superficial or deep with little discharge.	Biopsy

## ALOPECIAS

Condition	Site of production	Characteristic lesion	Other lesions or conditions present	Specific laboratory or other diagnostic tests
Alopecia areata	Scalp beard or may be generalized	Well defined, non-inflamed areas of complete baldness	None associated with this condition	Biopsy
Male pattern alopecia	Scalp of males	Diminution in quantity or absence of hair in parietal areas and occiput	None associated with this condition	Physical appearance
Symptomatic or functional alopecia	Scalp of females	Diffuse diminution in quantity of hair	Tend to H. menstrual imbalance	None
Secondary syphilis	Scalp	Patchy incomplete areas of alopecia moth-eaten appearance	Other lesions of secondary syphilis	Dark field examination of moist lesion serologic test for syphilis
Folliculitis decalvans	Scalp	Scarred areas of alopecia scattered throughout the scalp	Follicular pustules and papules in the scalp	Biopsy
Periostriate	Scalp	Atrophic scarred areas of alopecia throughout the scalp	None	Biopsy
Lupus erythematosus	Scalp face and ears	Atrophic scarred areas of baldness Follicular plugging and marginal erythema present	Lesions of lupus erythematosus on face, ears, nose and elsewhere	Biopsy lupus erythematosus cell study
Sybarth dermatitis	Scalp of or preauricular area, and between the scapular	Areas of partial alopecia, covered with only adherent scale Frequenting of lesions on forehead, and behind the ears Annular lesions present	Lesions of sybarth dermatitis on chest, back and in pubic area	Biopsy
Tinea capitis	Scalp	Most common in young children Areas of incomplete alopecia filled with stubble of broken-off hair Adherent dry scale	None usually although other ringworm lesions may be present	Wood Light examination direct microscope examination culture on Sabouraud's medium
Trichotillomania	Scalp	Areas of incomplete alopecia with remaining hairs of varying length	Other evidence of emotional trait only hypochondria (nail biting)	None
Psoriasis	Scalp as well as other areas	Yellowish cup-shaped crusts (scutes) Areas of scarred alopecia like "mousy" color	Nails are thick, friable and discolored Psoriasis may be present on extremities and trunk	Direct microscope examination of scales or hair Culture on Sabouraud's medium



## Chapter 14

### LISTS OF CONDITIONS

#### Conditions in Which Scale Formation is a Prominent Feature

##### Macular

Exfoliative dermatitis	Pityriasis rosea	Rubeola (post-inflammatory)	Seborrheic dermatitis
Eczema	Pityriasis rubra pilaris		Superficial fungus infections
Ichthyosis	Post-inflammatory erythema	Scarlatina (post-inflammatory)	
Pellagra			
Pityriasis alba			

##### Papular

Keratosis pilaris	Lichen planus	Secondary syphiloderms	Superficial epitheliomas
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##### Macular or Papular

Eczema	Parapsoriasis	Pityriasis rosea	Psoriasis
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#### Hyperpigmentation or Deposits of Foreign Pigment in the Skin

Addison's disease	Café-au-lait spots of neurofibromatosis	Freckles	Postinflammatory deposit of melanin diffuse or localized
Argyria	Carotenemia	Hemosiderosis	
Atabrine dermatitis	Chloasma	Jaundice	
Basmuth pigmentation	Chrysoderma (gold)	Melange of Riehl	Tattooing accidental and intentional
		Mongolian blue spots	

#### Atrophic Changes

Anetoderma (macular atrophy)	Krukenberg's vulvae	Necrobiosis lipolytica diabetorum	Scleroderma
Atrophic lichen planus	Lichen sclerosus et atrophicus	Polkiloderma vasculare atrophicum	benile cutaneous atrophy
Balanitis xerotica obliterans	Morphea (localized scleroderma)		Subcutaneous fat necrosis
Congenital hemiatrophy			

#### Atrophic Scars (Scars Formed without Preceding Ulceration)

Atrophie striae	Lupus erythematosus	Parapsoriasis varioliformis	Radiodermatitis (with telangiectases)
Favus	Lupus vulgaris	Pseudopelade	
Folliculitis decalvans			

#### Common Non-scaling Conditions

Adenoma sebaceum	Freckles	Lupus vulgaris	Scleroderma
Angiomas	Granuloma annulare	Macular syphilid	Toxic erythema
Chloasma	Gummas	Pseudovanthoma elasticum	Tuberculi
Epithelioma	Keloid	Purpura	Lenticular
Erythema multiforme	Leprosy	Sarcoid	Xanthomas
Erythema nodosum			

## Eruptions Which Rarely Involve the Face

Dermatitis herpetiformis  
Lichen planus

Paronychia  
Pityriasis rosea

Psoriasis  
Scabies

Tinea versicolor

## Some Systemic Diseases in Which Cutaneous Eruptions Are a Prominent Feature

Addison's disease  
Anthrax  
Arteriosclerosis  
Blood dyscrasias  
Brucellosis  
Chancroid  
Chemical poisoning  
Deep mycoses  
Dermatomyositis  
Diphtheria  
Endocrine dysfunction

Eosinophilic granuloma  
Epilola  
Erysipelas  
Gout  
Hemochromatosis  
Infectious exanthemata  
Infectious mononucleosis  
Leprosy  
Leptospirosis  
Lupus erythematosus  
Lymphomas

Lymphogranuloma venereum  
Meningococcemia  
Molluscum  
Pemphigus vulgaris  
Rheumatic fever  
Rickettsial diseases  
Rocky Mountain spotted fever  
Scarlet  
Scleroderma

Syphilis  
Thromboangitis obliterans  
Tuberculosis  
Typhoid  
Typhus  
Ulcerative colitis  
Varicella  
Visceral malignancies  
Xanthomatosis  
Yaws

## Chapter 15

### Macular Eruptions

#### **Aerodynia**

*Synonym* Ink disease

*Sites of predilection* Hands and feet of infants and children

*Objective symptoms* The hands and feet are markedly edematous and there is diffuse erythema in this rare condition. Cyanosis of the distal portions of the extremities together with generalized hyperhidrosis, indicates sympathetic nervous system activity. Secondary pyogenic infection frequently develops on the extremities. Profuse miliaria rubra may develop on the trunk.

*Subjective symptoms* Severe pain, itching, and fever. The child is irritable and unable to sleep for more than a few minutes at a time. The general health deteriorates.

*Etiology* The condition may be the result of mercury ingestion. Some observers believe aerodynia to be a vitamin B complex deficiency or an infectious process.

*Histopathology* Not diagnostic

*Diagnostic aids* History and physical examination

*Relation to systemic disease* The condition may be an indication of an infectious process, or a vitamin deficiency.

*Differential diagnosis* Raynaud's disease, dermatitis venenata

*Therapy* Adequate diet with vitamin B complex supplements, topical antibiotic ointments to correct secondary pyogenic infection, systemic antibiotic therapy when indicated.

#### **Addison's Disease**

*Synonym* None

*Sites of predilection* The cutaneous lesions may be generalized.

*Objective symptoms* This systemic disease may be brought to the physician's attention primarily because of the pigmentary changes. The earliest lesions may be marked depigmentation or hypopigmentation. Eventually the skin develops a bronze color caused by the deposit of melanin in the basal layer of the epidermis. The pigmentary changes are most marked over the face, groins, axillae, areolae, and genitalia.



FIG. 23 Addison disease

*Subjective symptoms* The cutaneous lesions are asymptomatic. The systemic symptoms are characterized by general lassitude, anorexia, and general malaise.

*Histopathology* There is a marked increase in the deposit of melanin in the basal layer. The histopathologic picture is not specific.

*Diagnostic aids* History and physical examination, hemogram, blood electrolytes, steroid excretion studies.

**Etiology** Suprarenal insufficiency

**Relation to systemic disease** Addison's disease is systemic.

**Differential diagnosis** Chloasma.

**Therapy** Deoxycorticosterone acetate pellet implantation systemic hydrocortisone supportive measures.

### Albinism

**Synonym** Albino.

**Sites of predilection** Generalized.

**Objective symptoms.** The skin of the entire body is depigmented. The hair is white, yellowish, or has reddish tint. The absence of melanin in the choroid causes the eyes to look pink, produces photophobia and, at times, nystagmus. The skin is hypersensitive to light. Albino skin in the young adult is frequently the site of keratosis, epitheliomas and other degenerative changes.

**Subjective symptoms.** Photophobia.

**Etiology** Congenital.

**Histopathology** Not diagnostic. Absence of melanin in the basal layer.

**Diagnostic aids** History and physical examination.

**Relation to systemic disease** These patients are frequently mentally retarded, deaf or have other congenital defects.

**Differential diagnosis** Clinical appearance is characteristic.

**Therapy** Avoidance of exposure to sunlight. Judicious use of sun screen agents.

### Argiria

**Synonym** Silver poisoning.

**Sites of predilection** Generalized.

**Objective symptoms.** The entire integument is involved with a diffuse or localized, slate-blue permanent hyperpigmentation. This same type of pigmentation may be observed in the lunulae of the nails, the sclerae and the mucous membranes.

**Subjective symptoms.** None.

**Etiology** Ingested silver salt or continued application of it or colloidal suspensions to the nasal mucosa or pharynx.

**Histopathology** Numerous, very fine refractile granules are found in the membrana propria

of the sweat glands, the elastic tissue fibers, and nerve bundles. These fine granules are seen best with the dark field microscope.

**Diagnostic aids** Biopsy history and clinical appearance.

**Relation to systemic disease** The underlying pathologic state which was treated with silver compounds.

**Differential diagnosis.** Chloasma post inflammatory pigmentation.

**Therapy** None effective.

### Atrophia Senilis

**Synonym** Senile atrophy.

**Sites of predilection** Generalized. The most characteristic changes are seen on the exposed portions such as the face, neck, and hands.

**Objective symptoms.** The skin is dry and irregularly pigmented, with brownish macules, fine bran-like scale (telangiectasia, and loss of elasticity). Senile keratoses are commonly present on the face and hands.

**Subjective symptoms.** Itching, poor tolerance to soap and water.

**Etiology** Senescence.

**Histopathology** Atrophy of the skin appendages and the subcutaneous tissue. Senile elastosis develops in the corium and the elastic tissue takes the bluish color of the hematoxylin-eosin stain.

**Diagnostic aids.** Biopsy clinical appearance.

**Relation to systemic disease** Other manifestations of advancing age.

**Differential diagnosis** Eczematous eruptions.

**Therapy** Avoidance of exposure to wind and sun. Use of lubricant cream on the skin. Avoidance of the use of soap.

### Carotenosis

**Synonym.** Carotenemia.

**Sites of predilection.** Generalized.

**Objective symptoms.** This condition most commonly occurs in infant and young children. The condition is very prominent on the palms and soles. The sclerae are not involved.

**Subjective symptoms.** No cutaneous subjective symptoms.

**Etiology** Excessive intake of foods (e.g., orange juice and carrot) containing large amounts of carotene.

*Histopathology* Nonspecific

*Diagnostic aids* History relative to systemic disease clinical appearance

*Relation to systemic disease* Carotene is normally converted into vitamin A. In myxedema and diabetes the conversion is impaired and carotene accumulates in the skin

*Differential diagnosis* Jaundice

*Therapy* Reduce the intake of carotene (normally found in carrots, oranges, squash, pumpkin, sweet potato, and eggs)

**Chloasma**

*Synonym* Liver spots.

*Sites of predilection* Face, genitalia, and areolae of breasts.

*Objective symptoms* Various sized well defined non scaly light to dark brown macules. These lesions vary in size from 2 to 4 cm. or larger. There is no evidence of any previously existing active inflammatory process. Intensification of normal pigment on genitalia or areolae of breasts.

*Subjective symptoms* Emotional distress produced by the cosmetic defect.

*Etiology* Unknown

*Histopathology* Increase in the melanin content of the basal layer.

*Diagnostic aids* Biopsy findings are not specific.

*Relation to systemic disease* The condition may indicate the presence of an ovarian tumor. It frequently results from some hormone dysfunction and occasionally develops during pregnancy. It is frequently idiopathic.

*Differential diagnosis* Post inflammatory hyperpigmentation, post radiation hyperpigmentation, argyria, Addison's disease.

*Therapy* Avoidance of exposure to sunlight. The use of hydroquinone creams is of doubtful value.

**Comedo**

*Synonym* Blackheads

*Sites of predilection* Face, ears, back, and chest.

*Objective symptoms* Small black or gray plugs in follicular orifices. These plugs may be readily expressed and are whitish and caseous, with black ends. The plugs consist of condensed se-

bum and epidermal debris. The black portion of the plug is not caused by dirt but by a chemical change in the cellular elements. Many comedones become acne papules and pustules. Large comedones resembling neoplasms develop in the elderly.

*Subjective symptoms* The psychogenic effect produced by the presence of lesions.

*Etiology* Specific causative factors are unknown.

*Histopathology* Keratin plug in the pilosebaceous orifice with dilatation of the gland by sebaceous material.

*Diagnostic aids* Demonstration of the sebaceous plugs by expression biopsy.

*Relation to systemic disease* The condition is common at puberty and is related to hormone activity; dietary indiscretions, and internal infection.

*Differential diagnosis* Clinical appearance is characteristic.

*Therapy* Expression of comedones. Dietary restrictions, colloidal sulfur lotions, ultraviolet (See specific instructions under acne in the chapter on Papular Eruptions).

**Cutis Hyperelastica**

*Synonym* Ehlers Danlos syndrome

*Sites of predilection* Generalized

*Objective symptoms* The skin is soft and smooth without evidence of any active inflammatory process. The skin is hyperelastic and a fold may be stretched far beyond its normal attachment. When the fold is released it returns to its normal appearance. Associated with this condition there is hyperextensibility of joints, particularly of the fingers and toes. Following trauma pseudotumors develop particularly over the elbows and knees. These tumors are extravasations of blood and serum which collect in the traumatized areas because of ruptured blood vessels. This type of lesion involutes spontaneously and is replaced by a scar. They are recurrent.

*Subjective symptoms* None

*Etiology* Congenital

*Histopathology* Some fragmentation of elastic fibers may be demonstrated by the use of special stains. The histopathologic picture is not specific.



FIG. 26. Cut. hyperrelaxa. Facial lesion and hyperextensibility of joint.

*Diagnostic aids.* History and clinical findings.

*Relation to systemic disease.* None.

*Differential diagnosis.* Cut. laxa, anetoderma.

*Therapy.* None.

#### Dermatitis F. illiath Neonatorum

*Synonym.* Rutter disease, pemphigus neonatorum, impetigo neonatorum.

*Site of predilection.* Generalized.

*Objective symptoms.* The primary lesion may begin as erythematous macule or bleb which spread to involve the entire body. Vesicles, vesicopustules and bullae develop and spread. Pus rapidly develops in the bullae and vesicles. Exfoliation occurs in large plaques. Fissure formation develops at the angles of the mouth. Blood, serum and pus crust form in areas where vesicles and blebs have ruptured. The child may have stomatitis, rhinitis and corneal ulcers and may become cachectic.

*Subjective symptoms.* Chills, fever and loss of appetite. This is a serious illness which may terminate in death.

*Etiology.* *Micrococcus pyogenes*.

*Histopathology.* Edema of the epidermis. Vascular dilatation is present in the papillary portion of the corium and there is a cellular infiltrate composed of polymorphonuclear leukocytes and lymphocytes.

*Diagnostic aids.* Culture of the exudate from or tube dilution sensitivity tests on the bacteria to determine antibiotic selection.

*Relation to systemic disease.* This condition may precede the onset of bacteremia, and may terminate in death.

*Differential diagnosis.* Leiner's disease, scurvy, ichthyosis, eczema, epidermolysis bullosa.

*Therapy.* These children should be hospitalized and isolated. Cultures should be made from the exudate to determine the antibiotic of choice for systemic administration. The involved areas should be compressed with warm boric acid solution or warm normal saline solution to remove the detritus and exudate. Following the use of compresses a bland antibiotic ointment should be applied. The antibiotic of choice should be administered systemically. Avoid soap on the involved areas until the eruption has completely cleared.

#### Dermatitis Facillous

*Synonym.* Feigned eruption, malingering's disease, drug-out disease, delusions of parasitosis.



FIG. 27. Neurotic excoriations.

*Sites of predilection* Any area on the body which can be reached by the hands.

*Objective symptoms* Objective symptoms vary with the type of irritant which has been used. If a substance such as phenol, a mineral acid, or a caustic has been applied to the skin, the lesion may be edematous and reddish, surrounded by a zone of darker erythema and scaly or serous crusting. Various stages in the evolution of lesions, varying from acute to chronic, may be present. All the lesions are well defined and too geometrically perfect to be natural in origin. Areas of erythema, vesiculation, necrosis, and ulceration occur.

In many patients there are well healed scars, healing lesions covered with adherent crusts, and recently produced lesions covered with blood crusts. These represent areas in which the patient has picked out pieces of skin with the fingernails or some sharp instrument.

*Subjective symptoms* Those produced by the mental aberration of the patient. Some patients will complain of a crawling sensation under the skin (formication). Another common complaint is that of a parasite which is on or burrowing under the skin. Patients state that the itching is so intense that they must dig out the parasite.

*Etiology* Mental illness. Malingeringers may intentionally injure the skin in order to obtain compensation or gain sympathy.

*Histopathology* The microscopic picture is not diagnostic.

*Diagnostic aids* If the traumatized area or areas are covered with occlusive dressings containing some bland, therapeutically inactive substance such as sterile petrolatum, the lesions will heal. When the dressings are removed, the patient will reproduce the lesions in the same site.

*Relation to systemic disease* The condition is an indication of mental illness.

*Differential diagnosis* Syphilis, tuberculosis, occupational diseases, allergic eruptions, drug eruptions.

*Therapy* Psychotherapy.

### Dermatomyositis

*Synonym* None.

*Sites of predilection* The cutaneous lesions are

most commonly seen on the face (especially about the eyelids), the trunk, and extremities.

*Objective symptoms* In the early stage the eruption is polymorphic, beginning with recurrent edema of the face and extremities. The first lesions appear on the eyelids and then extend over the cheeks, face, neck, and shoulders. Small scaly, bluish red macules develop over the bony prominences and the skin becomes pigmented and atrophic. In some patients the lesions resemble those of systemic lupus erythematosus. Later cutaneous manifestations resemble urticaria; erythema multiforme; erythema nodosum; eczema, or erysipelas.

The patient has a low grade intermittent fever and sweating is a common symptom. The characteristic feature of this condition is the development of nonsuppurative myositis which leads to progressive weakness. In advanced cases walking is impossible and the head droops when the patient is lifted. Mild forms of the condition may become chronic or show complete remission. There is definite tenderness of muscles.

*Subjective symptoms* Cutaneous symptoms vary from mild itching to severe pain over the involved areas. There is marked pain and tenderness in the muscles. In advanced cases the head droops and the patient has difficulty in raising himself to a sitting position. He has weakness of all muscle groups, especially those about the eyes.

*Etiology* The cause is unknown, however, this condition, as well as lupus erythematosus and scleroderma, has been associated with the collagen vascular group of diseases.

*Histopathology* The histopathologic picture of skin lesions is nonspecific. A muscle biopsy shows perivascular infiltration with lymphocytes, plasma cells, and polymorphonuclear leukocytes. The muscle fibers become edematous, undergo degenerative changes, finally become homogeneous and are replaced by fibrosis.

*Diagnostic aids* Muscle biopsy.

*Relation to systemic disease* Splenomegaly. The heart may be involved and death from heart failure ensue. Involvement of the diaphragm

and intercostal muscles may lead to bronchopneumonia or suffocation

*Differential diagnosis* Scleroderma lupi erythematosus erythema multiforme erythema nodosum psoriasis

*Therapy* Non-specific Corticosteroids may give symptomatic relief

## EZEMA

The word *eczema* is a morphologic not a specific diagnostic term. Eczema may be atopic, seborrheic or contact. The condition may be acute subacute or chronic (*neurodermatitis*). The development of an eczematous eruption is associated with one or more of the following factors: an allergic state, focal infection, psychogenic factors, or chronic local irritation. Regardless of the causative factor, the basic clinical picture is that of an ill defined, confluent, acutely or chronically inflamed eruption in which there is serous exudation, scaling, excoriations, and fissure formation. The clinical appearance varies with the age of the individual, the site of involvement, the causative factors, and the duration of the eruption.

*Eczema Atopic Dermatitis (in Children)*

*Synonym.* Tetter seven-year itch.

*Sites of predilection.* Face scalp antecubital fossae popliteal spaces, trunk, and the genitocrural area.

*Objective symptoms.* Ill-defined pink to red confluent macular eruption. The surface may be covered with a variable amount of dry scale and the lesions are slightly thickened. Excoriation and blood crusts are frequently present and at times the involved area is moist or covered with a serous crust. Complication with secondary pyogenic infection may be extensive. Superimposed *Candida albicans* infection may occur. With the development of chronicity there is marked accentuation of the normal skin markings (lichenification) caused by thickening of the skin. Because of loss of tone fissures develop especially on the dorsal surfaces of the hands and fingers.

*Subjective symptoms.* Severe itching.

*Etiology.* Hypersensitivity to ingested, injected, or inhaled substances. In chronic cases there may be broadening of the allergic base so that the patient becomes sensitized to many substances. Patients with atopic dermatitis frequently develop superimposed contact dermatitis caused by overzealous local therapy. Lesions are aggravated by emotional stimuli.

*Histopathology.* The microscopic picture varies with the stage of the eruption. To a greater or less degree there is edema of the epidermis and the upper cutis, but no frank vesiculation. There is some vascular dilatation and round cell infiltration. Moderate acanthosis may be present.

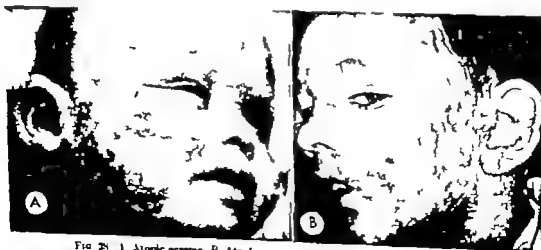


FIG. 28-1. A: Atopic eczema. B: Atopic eczema complicated by pyogenic infection.



*Diagnostic aids.* History and physical examination patch scratch and intradermal tests are of doubtful value.

*Relation to systemic disease.* These patients frequently have or develop urticaria hay fever or asthma.

*Differential diagnosis.* Fungal infections contact dermatitis pityriasis rosea psoriasis. It is frequently difficult to distinguish between atopic eczema and seborrheic dermatitis.

*Therapy General principles.* Allergic eczematous eruptions in infants may be caused by exogenous or endogenous sensitizing substances emotional stimuli or a combination of two or more of these factors. Endogenous stimuli include foods drugs vaccines and inhalants. Exogenous stimuli include a wide variety of sensitizing substances such as baby oils powders disinfectant soaps mattress covers, rubber pants, plastic pants, toys, and various topical medications. In any chronic eczematous eruption physical discomfort produces emotional stimuli which in turn aggravate the previously existing dermatitis.

Specific treatment measures depend on detection and elimination of causative factors. If the eczematous eruption is persistent there is a broadening of the allergic base which in turn makes the therapeutic problem more difficult. Selection of the treatment method depends on the type of eruption observed at the time of examination.

#### *General management*

1 The child should be placed on a routine of treatment prescribed by the physician and carried out by one designated person.

2 Avoid the use of soap or soap substitutes on the involved areas. The child may be cleansed with clear water. The use of any cleansing agent on acutely inflamed skin other than clear water may cause great irritation. In the absence of secondary pyogenic infection the child with eczematous eruptions may be bathed in oatmeal water starch baths, Aveeno baths or soybean meal baths.

3 Avoid the use of rubber or plastic pants.

These should be worn only when the child is in transit and removed on arrival.

4 Place a cotton quilted pad between the sheet and the mattress cover of the child's crib. This is done to protect the child from coming in contact with the plastic mattress cover.

5 The room should be light and well ventilated. Dusting should be done with a vacuum cleaner or with a damp cloth. The child should be removed from the room at this time.

6 The diapers should be washed thoroughly in hot water with a white nonperfumed soap and then boiled. They should be rinsed three times in clear hot water to remove all traces of soap and thoroughly dried before use.

7 Following the bowel movement the child should be cleansed with a pledget of cotton moistened with mineral oil.

8 If a dusting powder is desired, cornstarch may be used. This may be placed in a white cotton sock tied at the top. The cotton sock stuffed with cornstarch may be sterilized by placing it in the oven for 15 minutes at baking temperature. The cotton sock containing the cornstarch is used as a powder puff. Do not use medicated talcs.

#### *Secondary infection complicating eczema in infants*

1 Compress the involved areas with warm saturated solution of boric acid to remove the crusts and other surface detritus. The boric acid solution is made at home by dissolving one teaspoonful of boric acid in a pint of hot water. This should be put in a bottle and labeled. Some parents prefer to make a fresh boric acid solution at the time of each treatment. Following the application of the boric acid compresses the infected areas should be treated with a thin application of Spectrocin Neosporin Terramycin, or Aureomycin ointments. Do not massage the ointment into the area. This procedure should be repeated three times daily until all secondary infection has completely disappeared.

2 A combination ointment containing a steroid with an antibiotic will serve to eradicate the secondary pyogenic infection and will also relieve the inflammatory process. Terra-Cortril ointment Neo-Cortef ointment Cortisporin ointment Neo-Magnacort ointment and Meti-Derm with neomycin.

on are among the available efficient commercial preparations. These preparations are expensive and the patient should be advised to apply only a thin film to the involved area.

2. If the eczematous process is located in the crural region, it may be complicated by monilial infection. In such instances use alternating applications of Mycostatin ointment and one of the steroid ointments (or Mycosterol ointment)

#### *Systemic medications.*

1. In infants and very young children adequate sedation is important. The child may be treated with Rectonol or Venbatal suppositories ( $\frac{1}{2}$  gr. in each suppository) inserted at bedtime. In older children, elixir of phenobarbital given in teaspoonful doses (each containing  $\frac{1}{4}$  gr.) given several times daily is satisfactory.

— Antihistamines are primarily of value as sedatives. Elixir of Pyribenzamine, elixir of Benadryl, and syrup of Theralignin are among the available commercial preparations for systemic administration. Do not use antihistamine ointments for local therapy as they are sensitizers and may produce local allergic reactions.

2. Avoid the use of systemic steroids in infants and young children. It is seldom necessary to use such potent medication in the treatment of this relatively benign process. Unless the child becomes extremely ill because of the eczematous process, systemic steroid therapy is contraindicated.

4. Gyrup of Temard is a compound recently made commercially available. It is primarily of value in the relief of pruritus. Each teaspoonful contains 25 mg. of the active ingredient. It should be given after meals and at bedtime. This preparation has some sedative effect.

5. Advise the parent to avoid the use of home remedies without professional medical advice.

#### *Treatment of subacute and chronic lesions.*

1. Avoid the use of such sensitizing substances as nitric acid ointment, benzocaine ointment, and Karlanine ointment.

2. One to 3 per cent crude coal tar in petrolatum or lanolin base is frequently an effective preparation. Liquor carbonis detergens (solution

of coal tar) used in a concentration of 3 to 5 per cent in a vanishing cream base or lotion is also an effective preparation. The commercially available coal tar distillate ointments are efficient and have the advantage of being stainless.

3. The various commercially available steroid ointments or lotions produce relief from itching and also decrease the existing erythema. These preparations are the most efficient of all local medications for the treatment of cutaneous eczematous eruptions. Combinations with neomycin and other antibiotics are available for the treatment of those lesions in which there is secondary pyogenic infection. Because of the expense involved, patients should be warned to apply the ointments sparingly to the involved areas.

4. A lotion made of equal parts of fresh, refined linseed oil and lime water (sassa oil) is soothing and emollient.

5. Avoid the use of drying lotions. Calamine Liment is superior to calamine lotion in the treatment of most patients with eczematous eruptions.

#### *Dietary restrictions.*

1. If the history indicates that the eruption began following the intake of a certain food, it should be eliminated from the diet for two weeks. If there is improvement it should be readministered to see if symptoms are reproduced.

2. There is no hard and fast rule to govern the elimination of any group or groups of foods. Skin test are notoriously unreliable as a guide.

3. A diet diary may be of value. The patient's mother is requested to write down each article of food the child eats and how it is prepared. This must be done meal by meal and day by day. Twice each day the patient's general condition should be recorded. At the end of each week the events relative to the child are to be summarized and a search made for some common factor in the diet.

#### *Environment.*

1. The child should be placed in a clean, well lighted, and well ventilated room.

2. The bed should be changed frequently. The child should not be allowed to wear a wet or dirty diaper.

3 A minimum of handling of the infant is essential. As much as possible treatment routines should be carried out by one designated person.

4 Hospitalization is advised in those instances where the child is acutely ill or the treatment routines cannot be satisfactorily performed at home.

### Eczema Atopic Dermatitis Neurodermatitis (In Adults)

*Synonym* Seven year itch, tetter

*Sites of predilection* Popliteal spaces, antecubital fossae, axillae, face, trunk, groin/crural area and perianal area.

*Objective symptoms* The condition may become apparent at any age. In adults the lesions are ill defined, confluent, lichenified macules. There is marked accentuation of the normal skin lines in the involved areas with a tendency to localization. The surface may be scantily scaly but is more frequently covered by excoriations and blood crusts. Secondary pyogenic infection may be present.

The color varies from dull pink to violaceous. A widespread chronic eruption is referred to as disseminated neurodermatitis. A single lichenified area may be present on the back of the neck, in the antecubital fossae, in the popliteal spaces or on the inner aspect of one or both thighs. At times the accentuation of the lines (lichenification) is so extensive that small papules are formed at the margin of the lesion. This

type of involvement has been called localized neurodermatitis, lichen simplex chronicus or neurodermite.

*Subjective symptoms* Moderate to intense itching, emotional instability and sleeplessness.

*Etiology* Hypersensitivity to ingested, injected, or inhaled substances, chronic contact sensitivity, emotional tension.

*Histopathology* Acanthosis and hyperkeratosis with edema of the basal layer and the upper cutis. There is mild chronic cellular infiltration.

*Diagnostic aids* Biopsy may be of value, history and physical examination.

*Relation to systemic disease* The condition may be associated with respiratory allergic phenomena, emotional instability or foci of infection.

*Differential diagnosis* Cranioloma, fungoides, fungus infections, pruritus, seborrheic dermatitis.

#### Therapy

1 Patient should have a thorough physical examination with search for foci of infection.

2 Intelligent use of sedatives or tranquilizers is a useful adjunct in the management of these patients.

3 Avoid overtreatment.

4 Avoid the use of soap or soap substitutes on the involved areas. Oatmeal baths, starch baths, Aveeno baths, or soybean baths are of value as emollients.

5 If secondary pyogenic infection is present the areas should be compressed with warm compresses.



FIG. 29 (Left) Eczema of popliteal area. Diagnosed confirmed by biopsy. (Right) Chronic lichenified eczema (neurodermatitis).

acid solution to remove crusts and other surface detritus and, following this, use one of the antihistaminic ointments such as Spectrocin, Neo-pom, Terramycin or Aureomycin. Avoid unnecessary rubbing in the application of these ointments.

6. A steroid-antihistaminic ointment (Terra-Cortril, Neo-Cortel, Cortis-pom, or Neo-Magna-cort) is efficient in eradicating superficial pyogenic infection and reducing the erythema.

Avoid the use of systemic steroids except in extensive involvement.

8. In chronic lesions, 1 to 3 per cent crude coal tar or solution of coal tar in petrolatum or Lassar's paste is frequently an effective preparation. The commercially available coal tar distillate ointment are efficient and stainless.

9. The commercially available steroid ointment (hydrocortisone prednisolone Medrol, Magma-cort and triamcinolone acetonide) are all efficient but are expensive.

10. One per cent phenol cream 1 in olive oil or cotton seed oil is an effective antipruritic preparation. Menthol (0.1 to 0.5 per cent) in alcohol, vanishing cream or lotion base is also an efficient antipruritic preparation.

### Ephelides

*Synonym:* Freckles.

*Sites of predilection:* The face, forearms, shoulders, back, and back.

*Objective symptoms:* Various sized, discrete well defined, brownish macules which range in size from 1 mm. to 1 cm. in diameter. The number of lesions and the depth of pigmentation is greater in the summer months.

*Subjective symptoms:* None.

*Etiology:* The action of sunlight on the exposed surfaces is productive of a deposit of melanin in the skin. This condition may also be produced by menthyl rays.

*Histopathology:* An increased deposit of melanin in the basal layer of the epidermis.

*Diagnostic and biopsy:*

*Relation to systemic disease:* None.

*Differential diagnosis:* Xeroderma pigmentosum, urticaria pigmentosa, linea versicolor, café-au-lait spot.

*Therapy:* None.

### Epithelioma Intraepitheliale

*Synonym:* Paget disease, erythroplasia of Queyrat, Bowen's disease.

*Sites of predilection:* Paget's disease occurs in the areola and the nipple area of the breast. Erythroplasia of Queyrat occurs on the glans penis. Bowen's disease occurs on the trunk and extremities.

*Objective symptoms:*

**PAGET'S DISEASE:** Occurs primarily in females between the ages of 40 and 60 although males may also develop these lesions. This condition is usually a well defined, early reddish, macular lesion involving the areola and nipple. The margin is usually slightly raised, although this may be obscured by serous exudation and crust formation. The lesion does not respond to local therapy and never heals spontaneously. It is usually unilateral.

**ERYTHROPLASIA OF QUEYRAT:** This lesion, which is usually limited to the glans penis, is primarily a early erythematous macule which is sharply defined and covered with a slight amount of adherent dry scale. Occasionally there is some serous exudation and crust formation. This lesion is not self-limited and does not respond to local therapy.

**BOWEN'S DISEASE:** The primary lesion is a light brown, pinkish, or reddish maculopapule which is covered with a thickened horny layer. The margin is sharply defined. The lesions may be covered with a serous crust. When the scale or crust is removed the underlying surface is reddish and may be moist. The base is granular and occasionally papillomatous in appearance.

**EXTRAMAMMARY PAGET'S DISEASE:** These lesions which resemble erythroplasia occur on the lips, vulva, penis, trunk, nose and extremities.

*Subjective symptoms:* In the early phases of the disease itching is a prominent symptom.

*Etiology:* Unknown.

*Histopathology:*

**PAGET'S DISEASE:** Epidermal cells and large sharply defined mononucleated cancer cells possessing deeply staining nuclei and faintly staining cytoplasm are present. Paget cells oc-

our intraepidermally singly and in small groups. These cells do not have prickles.

**BOWEN'S DYSPLASIA** The histologic picture is that of the classical intraepithelial epithelioma. Dyskeratotic cells are present in the epidermis. Extensive individual cell keratinization is present.

**ERYTHROPLASIA OF QUEYRAT** The histologic picture is that of an intraepithelial epithelioma with characteristic dyskeratotic cells.

**Diagnostic aids** Biopsy findings are characteristic.

**Relation to systemic disease** It is generally believed that Paget's disease is carcinoma at the onset. In advanced cases prognosis is poor. Both Bowen's disease and erythroplasia of Queyrat are intraepithelial epitheliomas which eventually become squamous cell carcinomas.

**Differential diagnosis** Infectious eczematoid dermatitis, neurodermatitis, contact dermatitis.

**Therapy** For Paget's disease of the breast surgical excision followed by deep radiation is the method of choice. Bowen's disease and erythroplasia of Queyrat will respond to treatment with Grenz ray or conventional x ray. Desiccation may be used to treat both Bowen's disease and erythroplasia of Queyrat.

### Epitheliomatosis Superficial Basal Cell

**Synonym** Eczematous epitheliomatous erythematoid epithelioma.

**Sites of predilection** Extremities and trunk.

**Objective symptoms** The lesions may be few or numerous. They are well defined confluent and discrete flat macules. Occasionally the lesions may be slightly elevated. There is a moderate amount of adherent dry scale. Lesions spread peripherally and vary in size from 1 to 10 cm in diameter. Each lesion is limited by a slightly raised very thin shiny rolled margin. Excoriations and crusting are frequently present. The condition develops most commonly after the third decade.

**Subjective symptoms** Moderate to intense itching.

**Etiology** Unknown.

**Histopathology** Characteristic of basal cell epithelioma with the tumor tissue closely applied to the under surface of the epidermis.

**Diagnostic aids** Biopsy.

**Relation to systemic disease** None demonstrated. May be associated with inorganic arsenic intoxication.

**Differential diagnosis** Lupus erythematosus, eczema, psoriasis, mycotic infection, neurodermatitis.

**Therapy** The small lesions may be excised or desiccated. All lesions respond to low voltage roentgen ray treatment (Grenz ray treatment). Many dermatologists believe this is the method of choice.

### Frysipela

**Synonym** St. Anthony's fire.

**Sites of predilection** Face but may appear anywhere on the body.

**Objective symptoms** The condition begins as one or more bright red raised macules which extend peripherally to form a well defined, edematous shiny flat lesion. Superficial vessels usually develop on the surface of the lesion. There is marked increase in local heat and the area may become hemorrhagic. The patients are usually acutely ill. The temperature may reach 104 to 105 F. There is enlargement of regional lymph nodes and the lymph vessels may be palpable. Some patients have recurrent attacks of erysipelas. With succeeding attacks persistent swelling of the involved parts may develop.

**Subjective symptoms** Malaise, chill and fever and vomiting. Locally there is usually burning, itching and pain.

**Etiology** *Streptococcus pyogenes*.

**Histopathology** There is superficial cellulitis in which the blood and lymph vessels are dilated and there is a marked perivascular infiltrate consisting primarily of intact polymorphonuclear leukocytes.

**Diagnostic aids** Culture on blood agar.

**Relation to systemic disease** Erysipelas is a systemic disease which may be followed by acute glomerular nephritis. Chronic otitis media has also been reported as a sequela.

**Differential diagnosis** Acute contact dermatitis.

**Therapy** Penicillin is usually the antibiotic of choice in the treatment of this condition. If this infection develops on a surgical or maternity

ward the patient should be isolated. Local therapy is of no value.

### Erysipeloid

*Synonym.* None

*Sites of predilection.* The hands.

*Objective symptoms.* The lesions develop at the site of trauma in people who handle crabs, oysters, and other seafood. The primary lesion is a macule and presents a dull red or purplish appearance. The lesions are slightly elevated and edematous and show a tendency to peripheral spread. Vesicles may develop. The border is sharply defined. The patients are not usually febrile.

*Subjective symptom.* Burning and itching.

*Etiology.* *Erysipelothrix rhusiopathiae*

*Histopathology.* A superficial cellulitis with vascular dilatation and an infiltrate of polymorphonuclear leukocytes closely packed about the vessels.

*Diagnostic aids.* Culture, history of handling sea food, biopsy.

*Relation to systemic disease.* In diffuse generalized cases the patients may develop septicemia and occasionally endocarditis. Severe and prolonged arthritis is a common sequela.

*Differential diagnosis.* Erysipelas and other pyoderms.

*Therapy.* Penicillin by injection, sulfonamides, and broad spectrum antibiotics.

### Erythema Ab igno

*Synonym.* Toasted skin.

*Sites of predilection.* Extensor surfaces of the legs.

*Objective symptoms.* The lesions begin as a reticulated, pinkish macular eruption, which later develops a brownish color.

*Subjective symptoms.* None.

*Etiology.* The condition develops because of exposure of the legs to open fireplaces, ovens, or oil stoves. The reticulated pattern develops because of local burns. The condition may also develop from exposure to infrared lamps or constant application of hot water bags or electric pads.

*Histopathology.* No specific picture.

*Diagnostic aids.* History of exposure, clinical appearance.

*Relation to systemic disease.* No specific relationship.

*Differential diagnosis.* Cutis marmorata, livedo reticularis.

*Therapy.* None.

### Erythema Multiforme

*Synonym.* None

*Sites of predilection.* Hands and forearms, face and lips, trunk.

*Objective symptoms.* The lesions are variously sized and variously shaped, well defined, flat macules or slightly raised, flat lesions. They may vary in size from 5 mm. to 20 cm. in diameter. The individual lesions are pink, reddish, or violaceous in color and there is absence of scale. The characteristic lesion consists of concentric rings of different colors and a central small vesicle. This is known as an iris or target lesion. Annular lesions may develop and several lesions come together to form a confluent or gyrate lesion. Papules and vesicles may also form part of the clinical picture. In some patients all three types of lesions may be present (see erythema multiforme in the chapters on Papular Eruptions and Vesicular Eruptions).

*Subjective symptoms.* The condition is characterized by recurrences. In some individuals there is mild to moderate itching. Arthralgias may be a symptom. Generalized malaise may develop.

*Etiology.* The specific etiologic agent is unknown. The clinical syndrome has been produced by sensitization to penicillin, antipyrine, and other drugs. There is a possible relationship to foci of infection. The cases originally described by Hebra occurred on a seasonal basis.

*Histopathology.* The collagen is edematous and there is vascular dilatation in the papillary portion of the corium. The perivascular cellular infiltrate consists of lymphocytes and polymorphonuclear leukocytes.

*Diagnostic aids.* Clinical examination and history. Biopsy picture is nonspecific.

*Relation to systemic disease.* The condition may be associated with splenomegaly, foci of infection, allergic disturbances, or rheumatic fever. Ery-

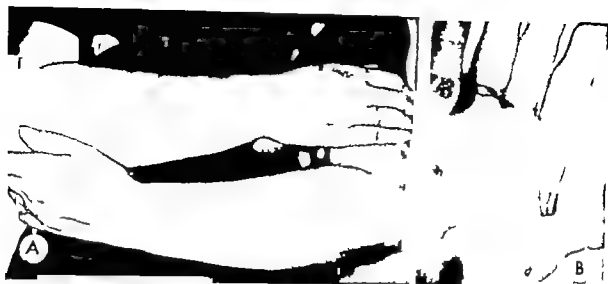


FIG 30 A Erythema multiforme due to penicillin B Characteristic target lesions in erythema multiforme

thema marginatum commonly observed in rheumatic fever is a variant of erythema multiforme. Other systemic infectious diseases may produce the same cutaneous picture.

**Differential diagnosis.** Urticaria, macular syphilid, lichen planus, id eruptions.

**Therapy.** In severe cases systemic steroid therapy is justified. These patients should also be at bed rest. Foci of infection should be eliminated. If the causative factor is drug allergy, the patient should be warned not to take the same drug again.

### Erythema Pernio

**Synonym.** Chilblains.

**Sites of predilection.** Distal portions of the extremities, the ears, and the nose.

**Objective symptoms.** Ill defined erythematous macules which become infiltrated, and eventually vary in color from dark pink to violaceous. Accompanying these symptoms there may be a reticulated reddish eruption on the arms and legs. The skin surface feels cool and is somewhat edematous.

**Subjective symptoms.** Vary in degree from numbness, tingling, itching, or burning to intense pain. At times there is loss of sensation.

**Etiology.** The condition is common in cold damp climates and occurs as a result of repeated exposure to cold. It most commonly develops in

individuals who have a circulatory defect referred to as chilblain circulation.

**Histopathology.** There is vascular dilatation in the upper portion of the cutis with round cell infiltration. Moderate acanthosis and hyperkeratosis is present.

**Diagnostic aids.** Clinical appearance supported by history and biopsy.

**Relation to systemic disease.** Peripheral vascular disease.

**Differential diagnosis.** Raynaud's disease.

**Therapy.** None effective.

### Erythema Scarlatiniforme

**Synonym.** Nono.

**Sites of predilection.** Generalized.

**Objective symptoms.** The onset of this condition is acute with the development of a profuse macular eruption consisting of numerous discrete and confluent areas. The lesions spread rapidly until the entire body is involved, presenting the ultimate picture of a bright red confluent occasionally mottled eruption. There is vascular injection of the pharynx.

After the erythema reaches a peak, exfoliation begins in the form of large thin translucent sheets. This may begin while the erythema is still spreading and continue for a week or longer. On the scalp and in the eyebrows and beard, the scales are fine, abundant and adherent.

Glove-like exfoliation of the palms and soles may occur.

The condition is recurrent.

**Subjective symptoms.** The onset is marked by chills and fever. Temperature rarely exceeds 101°F. Generalized malaise and nausea may occur. Night to moderate itching accompanies exfoliation.

**Etiology.** The condition probably toxic in origin and has been associated with foci of infection, drug reactions, and food sensitivities.

**Histopathology.** No specific picture.

**Diagnosis.** *aids.* Clinical appearance and history.

**Relation to systemic disease.** No specific relationship.

**Differential diagnosis.** Scarlet fever.

**Therapy.** Avoid the use of soap on the involved area. Starch or oatmeal bath several times daily. 1 per cent phenol crystal in oil to relieve the itching.

### Erythema Solare

**Synonym.** Sunburn.

**Sites of predilection.** The exposed parts.

**Objective symptoms.** Large bright red, well defined, macular lesions. The configuration of the lesion is determined by the clothing worn. The intensity of the color varies with the severity of the exposure. The surface may be covered with numerous small vesicles. When the acute erythema subsides, exfoliation occurs. Because of local medication or trauma the lesion may become crusted.

**Subjective symptoms.** Pain. When exfoliation begins it being occurs.

**Etiology.** Direct action of the actinic rays of the sun. The reaction to exposure varies with the pigmentation of the skin. Brunettes have less of a tendency to develop sunburn.

**Histopathology.** Vasoconstriction and edema of the epidermis with hyperkeratosis. There is vascular dilatation and perivascular cellular infiltration in the papillary portion of the cutis.

**Diagnosis.** *aids.* Clinical appearance and history.

**Relation to systemic disease.** In extreme cases secondary pyogenic infection may develop but pemphigus may complicate extensive sunburn.

**Differential diagnosis.** Toxic erythema, pellagra. **Therapy.** In mild cases calamine lotion will relieve the itching.

One per cent hydrocortisone lotion or ointment is an effective remedy. The use of prophylactic measures such as sun screen creams is advised in light-sensitive individuals.

### Erythema Toxic

**Synonym.** Erythema simplex.

**Sites of predilection.** Trunk, face and extremities.

**Objective symptoms.** The onset is acute with the development of numerous, variously sized and variously shaped pink to reddish macules which blanch on pressure. The lesions are ill defined lack infiltration and are not itchy.

**Subjective symptoms.** Usually none.

**Etiology.** The condition may be the result of emotional tension, food or drug sensitivity or a febrile reaction.

**Histopathology.** No specific picture.

**Diagnostic aids.** None of specific value.

**Relation to systemic disease.** May be a cutaneous manifestation of food or drug intoxication.

**Differential diagnosis.** Scarletina, macular syphilid.

**Therapy.** Elimination of the causative factor.

### Erythema

**Synonym.** None.

**Sites of predilection.** The axillae and the genital-crural region.

**Objective symptoms.** Well defined, confluent macular lesions with round or serpiginous borders. The area are reddish brown and slightly infiltrated. The surface of the lesion is covered with a fine furfuraceous scale.

**Subjective symptoms.** Moderate to mild itching.

**Etiology.** *Coccidia m. minutus* a fungus.

**Histopathology.** Mycelial thread may be demonstrated in the stratum corneum with the Hetchkin-McManis stain.

**Diagnostic aids.** *Coccidia minutissimus* has not been successfully cultured. The thin branching hyphae and spores may be demonstrated in a potassium hydroxide preparation or by the ink potassium hydroxide stain. The lesions develop a characteristic bright red fluorescence on exposure to flood light.



*Relation to systemic disease* No relation. hip to any specific disease

*Differential diagnosis* Tinea cruris tinea versicolor seborrheic dermatitis intertrigo

*Therapy* Five per cent sulfur salicylic acid ointment one per cent selenium sulfide ointment saturated solution of sodium hyposulfite applied several times daily

### Erythroderma Desquamativa

*Synonym* Leiner's disease seborrheic dermatitis of infancy

*Sites of predilection* Generalized

*Objective symptoms* This condition which occurs in infants may begin on the scalp as a profuse scaling macular eruption with an erythematous base. The lesions extend over the face on to the neck ears, trunk, extremities and genital area. Because of maceration in the folds of the neck and in the groins there may be some serous exudation and monilial infection may be superimposed. The clinical picture is that of extensive seborrheic dermatitis.

*Subjective symptoms* Usually mild from the cutaneous standpoint

*Etiology* Unknown. The condition may be the result of some dietary idiosyncrasy. The character of the lesion is frequently altered by overzealous topical therapy. The clinical picture may be altered so that the differential diagnosis between atopic eczema and seborrheic dermatitis is impossible.

*Histopathology* The microscopic picture is non specific.

*Diagnostic aids* None of any specific value.

*Relation to systemic disease* The children are usually poorly nourished. The prognosis is good with proper care. This condition responds to adequate diet and intelligent local therapy.

*Differential diagnosis* Ritter's disease eczema scariatum

*Therapy* Avoid the use of soap on the involved areas. Remove plastic from contact with the child. Place a cotton quilted pad between the sheet and the plastic or rubber mattress cover of the child's crib. Apply alternating applications of sulfur salicylic acid (2.5 per cent) ointment and one of the steroid ointments to the

areas, each twice daily. Use Mycostatin ointment to the areas in which monilial infection is superimposed. Place the child on a nourishing diet.

### Fat Necrosis In The Newborn

*Synonym* Adiponecrosis neonatorum.

*Sites of predilection* Trunk and buttocks.

*Objective symptoms* The eruption begins at birth or within the first two weeks of life as one or more non tender indurated areas which vary in size from 2 to 10 cm. and are scattered over the back and buttocks. The lesions may be pinkish or red in the early phase of the disease but the erythema usually fades. Although the lesions appear to be slightly elevated the skin surface is smooth. The lesions do not pit on pressure have well defined borders, and depressed central portions. Lesions will occur on any part of the body where there is fat. The condition lasts for about two months, then gradually subsides. There are no sequelae.

*Subjective symptoms* None.

*Etiology* Unknown possibly some defect in fat metabolism.

*Histopathology* There is fat necrosis with the development of needle-like crystals of fat. The infiltrate consists primarily of epithelioid and giant cells (some of which are filled with fat crystals).

*Diagnostic aids.* Biopsy history and physical examination.

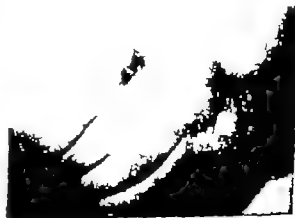


FIG. 31 Subcutaneous fat necrosis. Lesion on buttocks and lower trunk of newborn child.

*Relation to systemic disease.* The general health usually remains good.

*Differential diagnosis.* Eclerema scleredema scleroderma edema neonatorum.

*Therapy.* None effective.

### Fixed Eruption

*Synonym.* Fixed drug eruption.

*Sites of predilection.* May appear on any part of the body.

*Objective symptoms.* The primary lesion is a hyperpigmented macule which varies from light to dark brown and varies in size and shape. One or more of these lesions may be present. In the active phase the lesions are erythematous and edematous. Occasionally vesicles develop. When the active lesion subsides areas of hyperpigmentation remain. If the substance originally responsible for producing the eruption is readministered, typically the pigmented areas will again become active and assume the original inflammatory symptom. During the acute inflammatory phase the lesions may resemble erythema multiforme. The pigmented areas,

which form the inactive phase, are usually persistent.

*Subjective symptoms.* During the active inflammatory stage the symptoms vary from moderate to severe itching, but there are no symptoms during the inactive or pigmented stage.

*Etiology.* This type of allergic reaction is produced by the systemic administration of phenolphthalein, antipyrine and other drugs.

*Histopathology.* The histopathologic picture is not diagnostic.

*Diagnostic aids.* A careful history may reveal the drug responsible for producing the condition. To prove the diagnosis administer a small quantity of the offending substance during the inactive phase and observe the patient carefully during the next three hours for the redevelopment of erythema, reactivation or other objective symptoms.

*Relation to systemic disease.* This is a specific allergic reaction. The appearance of these lesions may indicate the habitual use of cathartics, coal tar antipyretics or other drugs.

*Differential diagnosis.* Erythema multiforme, eczema, chronic contact dermatitis.

*Therapy.* Discontinue use of the offending substance.

### Granuloma Fungoides

*Synonym.* Mycosis fungoides.

*Sites of predilection.* Generalized.

*Objective symptoms.* This peculiar hematopoietic neoplastic disease begins in the skin. The cutaneous manifestations are divided into (1) phase of dermatitis, (2) phase of infiltration, (3) the tumor stage and (4) the ulcerative phase.

In the first stage there are few to numerous, localized areas which may be discrete or confluent ill defined or partially defined round or oval, and either dry or moist. In this phase the condition may mimic parapsoriasis, a plaque psoriasis, atrophicans vasculare, mild radiodermatitis, eczema, pruritus or lichenified dermatitis. In the presence of a chronic skin eruption which does not respond to treatment the possibility of granuloma fungoides should be considered.

During the second stage circumscribed areas



F ■ Fixed drug eruption

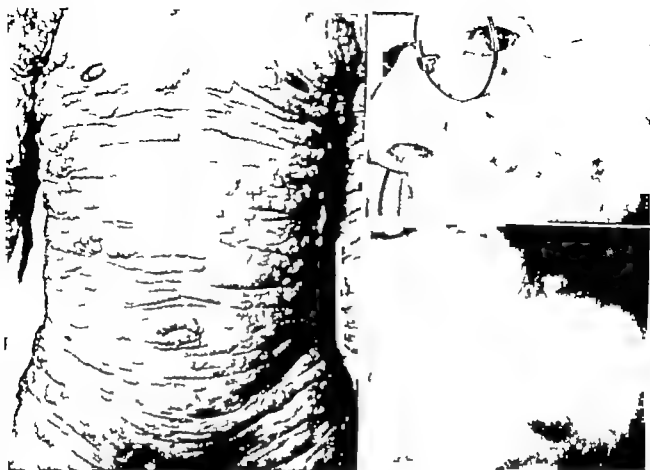


FIG 33 Examples of granuloma fungoides.

of lichenified dermatitis develop. The lesions range in size from 1 cm. to 10 cm. in diameter and may be intermingled with plaque-like lesions described in the first stage. Sealing lesions resembling those of psoriasis may be present. Annular and gyrate lesions may develop.

The tumor phase gradually develops following the stage of infiltration. The growths vary in size and shape and usually arise from lichenified plaques. These lesions seldom cause any subjective symptoms and they may disappear spontaneously. Occasionally tumors arise in an area of skin not previously involved by the process.

During the ulcerative phase the tumors or infiltrated lesions break down eventually developing granulomatous mushroom-like masses.

**Subjective symptoms.** Itching during the first and second phases. During the tumor phase and the stage of ulceration the lesions may be painful.

**Etiology.** Unknown.

**Histopathology.** The well defined cellular infiltrate in the upper layers of the cutis is polymorphous and is localized in the papillary portion. Mycosis fungoides cells are present. There is acanthosis of the rete with inter- and intracellular edema. Micro abscesses (Pautrier) form in the epidermis.

**Diagnostic aids.** Biopsy, complete blood picture, sternal marrow puncture.

**Relation to systemic disease.** This condition is a lymphoma. Subsequent to the development of tumors in the skin, other organs in the body may be involved. The prognosis is poor and death may be anticipated in from 5 to 10 years.

**Differential diagnosis.** Disseminated neurodermatitis, leprosy, eczema, psoriasis, urticaria.

**Therapy.** The cutaneous lesions frequently respond to conventional x-ray or Cerenx-ray therapy. Nitrogen mustard is of value in some cases. Intravenous administration of antimony compounds is reputed to be of some value. Systemic steroid therapy benefits some patients.

### Hereditary T angiectasia

**Synonym.** Osler's disease Osler Rendu disease  
Site of predilection Skin and mucous membranes.

**Objective symptoms.** There are reddish or purplish small telangiectases on the lips, tongue and buccal mucosa. There are small groups of dilated blood vessels and small bright red angiomata over the face, trunk, and extremities. Hematuria, bleeding from the mucous membranes of the mouth, or rectal hemorrhages may be associated symptoms.

**Subjective symptoms.** The cutaneous lesions are asymptomatic. Malaise and weakness may develop if bleeding is profuse.

#### *Pathology* Heredity

**Histopathology.** There are telangiectases in the cutis with a diminution in elastic tissue.

**Diagnostic aids.** History and physical examination. Blood platelet biopsy.

**Prognosis.** Is symptomatic of arterio-angiomas and telangiectases may also develop in internal organs. Bleeding from the nose or other mucous membranes may be the initial symptom. Cutaneous lesions do not usually appear before puberty.

**Differential diagnosis.** Hemorea, nervous vulgus, purpura.

**Therapy.** None effective. Transfusions may be ne-

cessary if bleeding is profuse. Vitamin K may be of value.

### Ichthyosis

**Synonym.** Fishskin disease. Xerosis xeroderma xerod congenital hyperkeratosis.

**Sites of predilection.** Trunk and extremities.

**Objective symptoms.** The condition may be apparent at birth or develop shortly thereafter. If the child is born in the spring or summer the lesions may not be apparent until the cool months of the year. The condition is confined to the skin and is more evident on the exterior surfaces of the extremities. During warm weather lesions will almost completely disappear. In the vast majority of the patients, but become obvious as soon as cool weather returns. The skin surface in the affected area is dry and harsh. It is covered with a profuse adherent dry scale which is frequently irregularly quadrilateral. The condition may exist in a latent state.

The development of small hyperkeratotic follicular papules known as keratosis pilaris is frequently associated with ichthyosis.

Occasionally the condition is so advanced at birth that death occurs immediately or soon thereafter. This is known as harlequin fetus. In such patient the skin lack elasticity and large fissures are present on the trunk and at the com-



FIG. 31. Hereditary telangiectasia



FIG. 32. Ichthyosis

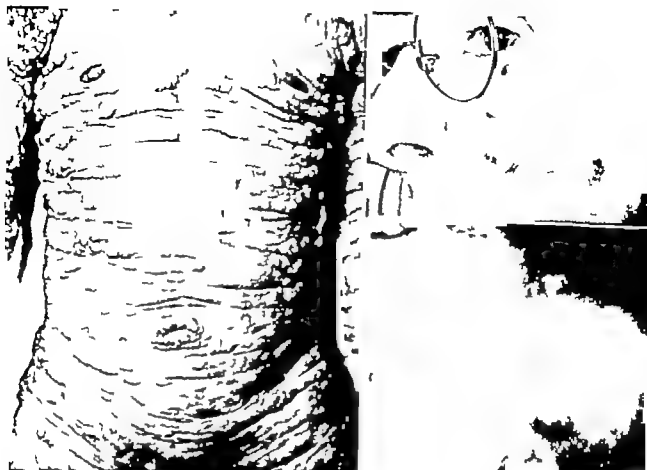


FIG 33 Examples of granuloma fungoides

of lichenified dermatitis develop. The lesions range in size from 1 cm to 10 cm in diameter and may be intermingled with plaque-like lesions described in the first stage. Sealing lesions resembling those of psoriasis may be present. Annular and gyrate lesions may develop.

The tumor phase gradually develops following the stage of infiltration. The growth varies in size and shape and usually arises from lichenified plaques. These lesions seldom cause any subjective symptoms and they may disappear spontaneously. Occasionally tumors arise in an area of skin not previously involved by the process.

During the ulcerative phase the tumors or infiltrated lesions break down eventually developing granulomatous mushroom-like masses.

**Subjective symptoms.** Itching during the first and second phases. During the tumor phase and the stage of ulceration the lesions may be painful.

**Etiology.** Unknown.

**Histopathology.** The well defined cellular infiltrate in the upper layers of the cutis is polymorphous and is localized in the papillary portion. Mycosis fungoides cells are present. There is acanthosis of the rete with inter and intracellular edema. Micro abscesses (Langerhans) form in the epidermis.

**Diagnostic aids.** Biopsy, complete blood picture, sternal marrow puncture.

**Relation to systemic disease.** This condition is a lymphoma. Subsequent to the development of tumors in the skin, other organs in the body may be involved. The prognosis is poor and death may be anticipated in from 5 to 10 years.

**Differential diagnosis.** Disseminated neurodermatitis, leprosy, eczema, psoriasis, urticaria.

**Therapy.** The cutaneous lesions frequently respond to conventional x-ray or Creutz-ray therapy. Nitrogen mustard is of value in some cases. Intravenous administration of antimony compounds is reputed to be of some value. Systemic steroid therapy benefits some patients.

### Hereditary Telangiectasia

**Synonym** Osler's disease Osler-Brandt disease

**Sites of predilection** Skin and mucous membranes.

**Objective symptoms.** There are reddish or purplish, small telangiectases on the lips, tongue, and buccal mucosa. There are small groups of dilated blood vessels and small, bright red angiomata over the face, trunk, and extremities. Hematuria, bleeding from the mucous membranes of the mouth, or rectal hemorrhages may be associated symptoms.

**Subjective symptoms.** The cutaneous lesions are asymptomatic. Malaise and weakness may develop if bleeding is profuse.

**Etiology** Heredity

**Histopathology** There are telangiectases in the cutis with a diminution in elastic tissue.

**Diagnostic aids** History and physical examination blood picture biopsy

**Relation to systemic disease** Angioma and telangiectases may also develop in internal organs. Bleeding from the nose or other mucous membranes may be the initial symptom. Cutaneous lesions do not usually appear before puberty.

**Differential diagnosis** Rosacea, pyoderma gangrenosum.

**Therapy** None effective. Transfusion may be necessary if bleeding is profuse. Vitamin K may be of value.

### Ichthyosis

**Synonym** Fish-Lan disease scuriosis xeroderma xerotic congenital hyperkeratosis

**Sites of predilection** Trunk and extremities

**Objective symptoms.** The condition may be apparent at birth or develop shortly thereafter. If the child is born in the spring or summer the lesions may not be apparent until the cool months of the year. The condition is confined to the skin, and is more evident on the extensor surfaces of the extremities. During warm weather lesions will almost completely disappear in the vast majority of the patient, but become obvious as soon as cool weather returns. The skin surface in the affected area is dry and hard. It is covered with a profuse, adherent, dry scale which is frequently irregularly quadrilateral. The condition may exist in a latent state.

The development of small hyperkeratotic follicular papules, known as keratosis pilaris is frequently associated with ichthyosis.

Occasionally the condition is so advanced at birth that death occurs immediately or soon thereafter. This is known as harlequin fetus. In such patients the skin lacks elasticity and large fissures are present on the trunk and at the extremities.



FIG. 24 Hereditary telangiectasia



FIG. 25 Ichthyosis

**Subjective symptoms** These patients are irritated by soap and have intense pruritus following the bath. Excessive dryness caused by the extent of the lesions may also cause pruritus.

**Etiology** Congenital. Familial characteristic.

**Histopathology** Hyperkeratosis, acanthosis and irregular dermal papillae without any evidence of inflammatory reaction.

**Diagnostic aids** History and physical examination.

**Relation to systemic disease** The general health of these patients is usually not affected.

**Differential diagnosis** Eczema.

**Therapy** Two per cent salicylic acid in petrolatum may be applied as a gentle emulsion during the cool months of the year. Other lubricants may be used. Avoid the use of soap on the involved areas except when absolutely necessary. All bathing should be done in a shower rinsing thoroughly. Vitamin A in doses of 50,000 units three times daily is reported to be of value. Therapy is supportive and not curative.

### **Ichthyosiform Erythroderma, Congenital**

**Synonym** None.

**Sites of predilection** Generalized but more prominent over the flexures.

**Objective symptoms** The condition is present at birth or develops a few days later. This macular eruption usually begins as a generalized ery-

thema which may be mild or severe. Associated is a thickening of the horny layer which may precede the erythema or develop later in the course of the condition. As the patient grows older the hyperkeratosis becomes more marked and the scaling more profuse. On various parts of the body the scale formation resembles ichthyosis and in the flexures (bends of the elbows and knees) and axillae the thickening of the horny layer is marked.

There are two varieties of this condition, the dry type and the bullous type. In the bullous type the lesions vary in size and shape and appear in frequent outbreaks on the extremities, most frequently during the winter months.

There is a tendency for spontaneous improvement during the summer months.

**Subjective symptoms** Mild to moderate itching, particularly after the use of soap and water on the trunk.

**Etiology** Congenital.

**Histopathology** Hyperkeratosis and acanthosis are present. The microscopic picture is not diagnostic.

**Diagnostic aids** History and physical examination.

**Relation to systemic disease** There is generalized diminution in perspiration over the body. As a general rule the health is unimpaired.

**Differential diagnosis** Ichthyosis, keratoderma.

**Therapy** Treatment is of little value. If possible the patient should move to a warm climate. The use of ultraviolet and administration of vitamin A in large doses may be useful.

### **Intertrigo**

**Synonym** Chafing.

**Sites of predilection** Occurs on apposing surfaces such as under the breasts, between the folds of the abdomen between the thigh and between the scrotum and thigh.

**Objective symptoms** Well defined to partially defined, bright pink macular lesions which are edematous, moist and macerated. The lesions may eventually become infiltrated and eroded. Fissures may develop under the breasts, in the folds of the abdomen or between the thighs.

**Subjective symptoms** Moderate to intense itching. Fissures may be painful.



FIG. 36. The 'wet' type of ichthyosiform erythroderma.

**Etiology** The condition may be precipitated between the apposing surfaces by the irritating action of soap deodorants bath powder perfume, etc. Intertrigo is not a specific disease but a symptom. The lesions may become secondarily infected by *Candida albicans* or the lesions of intertrigo may be the first clinical evidence of moniliasis.

**Histopathology** No specific picture

**Diagnostic aids.** Culture on Sabouraud's medium confirmed by cornmeal agar transfer

**Relation to systemic disease** Intertrigo most commonly develops in obese patients. Monilial infections commonly develop in obese diabetic patients.

**Therapy** The selection of the treatment method depends upon the causative factor. As a general rule patients with this condition should avoid tub baths and use either a shower or a spray. They should not use soap on the involved areas. Cool compresses of Barrow's solution, diluted 1:32, may be applied to the involved areas for one-half hour several times daily. Following the cool applications use either cornstarch or a non-medicated talc as a dusting powder. More specific medication should be applied when the etiologic factor has been discovered. In the case of monilial infection, Mycostein ointment is effective.

### keratosis Palmaris et Plantaris

**Synonym.** Ichthyosis palmaris et plantarum.

**Site of predilection.** The palms and soles.

**Objective symptoms.** This is a congenital condition in which the tissue of the palms and soles are symmetrically hyperkeratotic. The intense hyperkeratosis varies in color from a dirty gray to brown and the surface is exceptionally dry. The condition varies in severity from slight roughness to marked thickening of the keratin layer and intensification of the surface markings. Loss of elasticity is productive of painful fissure formation.

**Subjective symptoms.** Discomfort caused by inability to close the hands or bend the feet pain caused by fissure formation.

**Etiology** The condition is usually hereditary as a

dominant characteristic. It is occasionally associated with ichthyosis.

**Histopathology** Marked hyperkeratosis and acanthosis without any evidence of inflammatory reaction.

**Diagnostic aids.** None specific history and physical examination.

**Relation to systemic disease.** The general health is usually not involved.

**Differential diagnosis.** Epidermophytosis, psoriasis, callouses, anenical keratosis.

**Therapy** None effective.

### Keratosis Vulvar

**Synonym.** None

**Site of predilection.** Vulva

**Objective symptoms.** This is a progressive atrophic change in the labia majora and minora which leads to disappearance of the labia minora, prepuce and clitoris and gradual loss of the labia majora. Because of these changes the vaginal orifice narrows. The tissues become smooth, shiny and dry and develop a yellowish, waxy appearance. Leukoplakia may develop on the mucous membrane.

Chronic progressive atrophic changes may take place on the glans penis of the male. This condition is known as *keratosis peni*. The alterations in the mucous membranes are similar to those described in the female.

**Subjective symptoms.** Intense itching. Burning on urination is a common symptom.

**Etiology** The condition may be caused by hormonal imbalance or immaturity.

**Histopathology** The histopathologic changes are characteristic. In the epidermis there is hyperkeratosis follicular plugging and general epidermal atrophy with flattening of the rete pegs. There is liquefaction degeneration of the basal layer with edema in the upper cutis. The infiltrate in the mid-cutis consists of plasma cells and round cells.

**Diagnostic aids.** Biopsy picture is specific.

**Relation to systemic disease.** It may indicate endocrine imbalance.

**Differential diagnosis.** Senile atrophy.

**Therapy** Estrogenic substance may be of value on local administration or when given parenterally.



If malignant changes develop vulvectomy must be performed. Radiation therapy is of little value.

### Leprosy

Leprosy is classified primarily on the basis of clinical manifestations but laboratory confirma-

tion is mandatory. Bacterial studies, the lepromin reaction and the histopathologic examination must be performed. The lepromatous and the tuberculoid type are the two officially recognized clinical types. The indeterminate group of patients exhibit the benign but usually unstable manifestations which develop into lepromatous



FIG 37. Leprosy. A Malum perforans. B Al peels. C Depigmented anesthetic lesions. D Claw hand. E and F Leontiasis. G Tuberculoid. H Lepromatous. I Subcutaneous sarcoid. J Low digit.

or tuberculoid leprosy or remain indeterminate indefinitely. The borderline or dysemorphic group have the unstable malignant form in which the lepromin test is generally negative. The lesions in this type are flat bands, or nodules with regional distribution similar to that of the lepromatous type.

The lepromatous type will be discussed in the chapter on Papular Eruptions.

The tuberculoid type is described below.

*Synonym* Hansen disease

*Sites of predilection.* The trunk, elbows, knees, and face.

*Objective symptoms.* The condition begins as a red disk, variously sized macules which range in size from 3 to 10 or more cm. in diameter. The lesions are well defined and usually coalesce forming large areas which change to a yellowish or brownish color and later become depigmented. Trophic changes may occur in the vicinity of the patches. The hair in the involved area becomes depigmented. The course of the disease is slowly progressive over many years. The large nerve trunks, particularly the ulnar and peroneal become thickened, rope-like and tender. The macular skin lesions become anesthetic. Trophic changes including ulcers and bone resorption occur on the extremities. Alopecia, eye lesions, and mucous membrane lesions may develop.

*Subjective symptoms.* The macular lesions are sensitive at first but later become anesthetic. The large nerve trunks are tender.

*Etiology* *Mycobacterium leprae*. The mode of transmission is unknown. Infection occurs only after prolonged and close contact.

*Histopathology.* All active leprosy lesions have a tuberculoid histologic structure. The nodules consist of masses of connective tissue cells with intermingled lymphocytes, plasma cells and mast cells. The characteristic lepra or foam cell which contain the acid fast bacteria are present. Lymph nodes show a lepromatous structure and contain bacilli in the majority of lepromatous cases and show the tuberculoid structure in tuberculoid cases.

*Diagnostic aids.* Acid fast organisms may be demonstrated from the lesions of lepromatous lep-

rosy but rarely from the lesions of the tuberculoid type. The lepromin test is positive in tuberculoid leprosy but negative in the lepromatous type. The organisms may be found in nasal smear. Biopsy findings are characteristic.

*Relation to systemic disease.* Amyloid nephrosis is the major cause of death in lepromatous leprosy. Progressive weakness, anemia, and emaciation are also associated with the lepromatous type. The prognosis in the lepromatous form is poor. The patient with tuberculoid leprosy may live for many years.

*Differential diagnosis.* Syphilis, tuberculoid granuloma fungoides, syringomyelia, ulcers, lupus erythematosus, leukemia cutis.

*Therapy.* Improvement in general hygiene, good food, fresh air and sunlight. Chemotherapy with Promin, Dapsone or Promizole is specific.

### Leukemia Cutis

*Synonym* Leukemia with cutaneous manifestations.

*Sites of predilection.* Generalized.

*Objective symptoms.* There is usually a widespread, confluent erythematous macular eruption which is pink to dark red or violaceous in color. The lesions are moderately to markedly infiltrated and induration may be pronounced. Occasionally the involved areas are covered with a moderate amount of adherent dry scale. Linear excoriations and blood crust are part of the clinical picture. Other cutaneous lesions occasionally associated with the leukemia are purpura of various types, lichen nodules and ulcerations.

*Subjective symptoms.* Itching is usually intense.

*Etiology.* Unknown. The development of these cutaneous lesions may precede the appearance of changes in the blood picture.

*Histopathology.* There is a well demarcated infiltrate of round cells and occasionally large lymphoblastic cells in the upper layers of the cutis. The infiltrate is not necessarily limited to nodules or tumors. There is some acanthosis and hyperkeratosis.

*Diagnostic aids.* Biopsy, blood picture, studies of sternal marrow history and physical examination.

**Relation to systemic disease** The condition is a cutaneous manifestation of a systemic disease. The appearance of the cutaneous lesions frequently precedes onset of the changes in the blood picture.

**Differential diagnosis** Eczema, seborrheic dermatitis, exfoliative dermatitis, atopic dermatitis.

**Therapy** Treatment of systemic disease. Local therapy is of no value.

### Leukoderma Aequilinum Centrifugum

**Synonym** Sutton's nevus.

**Sites of predilection** Trunk.

**Objective symptoms** The lesion is a depigmented macule which varies in size from 1 to 3 cm in diameter. In the center of the vitiliginous area there is a small brown maculopapule.

**Subjective symptoms** None.

**Etiology** Congenital.

**Histopathology** The central nevus consists of an intradermal mass of melanophores.

**Diagnostic aids** Biopsy.

**Relation to systemic disease** None.

**Differential diagnosis** Vitiligo.

**Therapy** None.

### LUPUS ERYTHEMATOSUS

Lupus erythematosus is a constitutional disease because regardless of the clinical type discoid, subacute or disseminated it extends beyond the skin and affects the entire body. In common with other collagen diseases there is inconsistency of symptoms; however the basic pathologic features observed in the discoid form are similar to those of the systemic form. Variations in the clinical picture correspond to the different developmental stages of the disease. The transition from discoid lupus erythematosus to the final severe picture of systemic lupus erythematosus is frequently characterized by a corresponding increase in intensity and extent of the cutaneous lesions with the development of visceral symptoms. In some patients the symptoms of systemic lupus erythematosus develop in the absence of cutaneous lesions.

The cause of this condition is unknown. It has been postulated that it is caused by a peculiar allergic phenomenon. Lupus erythematosus occurs

most frequently in women between the ages of 20 and 40 years. Approximately 5 per cent of those patients who have discoid lupus erythematosus eventually develop systemic manifestations. In systemic lupus erythematosus hypergammaglobulinemia is a constant finding. Hematologic abnormalities include hypochromic and hemolytic anemia, leukopenia, granulocytopenia, eosinophilia, increased erythrocyte sedimentation rate, cold agglutinins, a positive direct Coombs test and the lupus erythematosus cell. Biologic false positive serologic tests for syphilis and abnormal liver function tests may occur.

Actinic trauma may precipitate or aggravate lupus erythematosus. The mechanism of this action is probably polymorphous light hypersensitivity.

### Lupus Erythematosus Discoid

**Synonym** None.

**Sites of predilection** Face, scalp, ears, and neck. Other areas may be involved.

**Objective symptoms** There are one or more sharply defined, slightly raised macules. The lesions are dull pink to red in color and are covered with a scant amount of adherent dry scale. The lesions spread peripherally. Butterfly lesions occasionally develop on the face. In older lesions the inflammatory reaction occurs primarily in the margin and the central areas are atrophic and depigmented. Telangiectases may occur. The dilated follicular orifices are filled with hyperkeratotic material (follicular plugs). Mucous membrane lesions, simulating leukoplakia, may develop.

**Subjective symptoms** Mild itching may be present. In extensive discoid lesions, the cosmetic defect may cause emotional imbalance.

**Etiology** Unknown.

**Histopathology** Atrophy of the epidermis and epidermal appendages, hyperkeratotic plugging, slight edema of the lower epidermal cell (liquefaction degeneration of the basal layer) and a dense, well defined mononuclear cell infiltrate which tends to be peripapillary.

**Diagnostic aids** The histopathologic picture is diagnostic. Biopsy. Lupus erythematosus cell

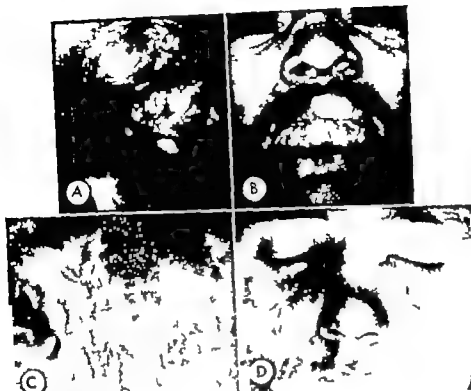


Fig. 29. Discoid lupus erythematosus. A Atrophic scar with hyperpigmented margins. B Lip lesion. C Follicular plugging formation. D "Butterfly" distribution.

studies, hemograms, albumin-globulin ratio, urinalysis, liver function studies, and x-ray examinations of the chest.

**Relation to systemic disease.** Although in the vast majority of cases, the discoid variety of lupus erythematosus runs a chronic benign course, approximately 5 per cent of these patients eventually develop symptoms of systemic lupus erythematosus. The clinical picture of discoid lupus erythematosus and the histopathologic picture of lupus erythematosus does not exclude the possibility of systemic manifestations. On every patient the diagnosis must be confirmed histopathologically.

**Differential diagnosis:** Seborrheic dermatitis, rosacea, eczema, psoriasis, erysipelas.

**Therapy:** Chloroquin, Plaquenil, Camoquin, Triquin, and Atabrine are effective systemic medications. Locally patients should use sun protectant cream such as A-fl or Flkolex.

### Lupus Erythematosus, Systemic

**Synonym:** None

**Sites of predilection:** Generalized.

**Objective symptoms:** Discrete and confluent sharply defined, pinkish, edematous macules. Telangiectases may develop and occasionally the lesions become hemorrhagic. On the hands the distal phalanges develop a bluish-red discoloration and on the feet the lateral margins of the transverse arch, and the distal phalanges develop a similar appearance. The early lesions may simulate erythema multiforme or urticaria. Older lesions on the face and trunk may become covered with adherent dry scale. Atrophic scarring is usually not present unless discoid lesions precede the systemic manifestations. Fever may be present.

**Subjective symptoms:** Generalized malaise, loss of weight, night sweat, joint pains, muscle tenderness, and gastric disturbances.

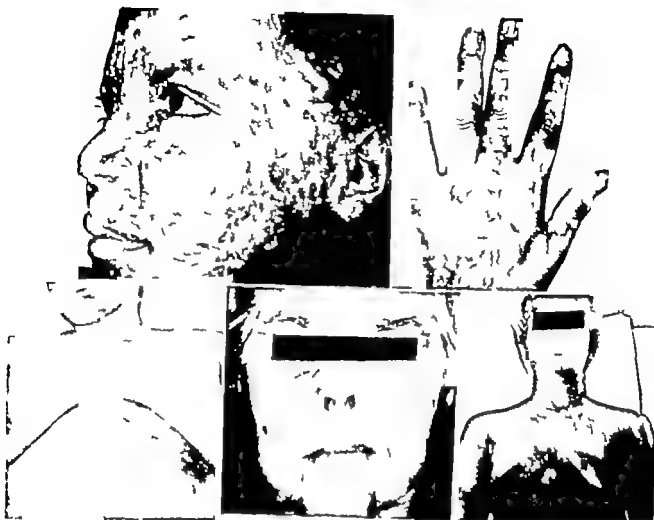


FIG. 39 Systemic lupus erythematosus

**Etiology** Unknown. The condition occurs most commonly in females.

**Histopathology** Atrophy of the epidermis with severe edema in the lower cells of the rete; lack of infiltrate and marked edema in the cutis.

**Diagnostic aids** Biopsy; lupus erythematosus cell studies; albumin-globulin ratio; hemograms; x-ray of chest; liver function studies; electrocardiogram; electrophoresis.

**Relation to systemic disease** The condition occasionally develops in the absence of skin lesions. Clinical manifestations are frequently produced by excessive exposure to sunlight. Systemic manifestations of lupus erythematosus include hepatitis, bronchopneumonia, pulmonary abscess, pleural effusions, verrucous endocarditis, depression of the bone marrow, polyarthritis, peritonitis, nephrosis, nephritis, and thrombocytopenic purpura.

**Differential diagnosis** The cutaneous lesions resemble those of purpura, erythema multiforme, urticaria, seborrheic dermatitis, or eczema.

**Therapy** Systemic steroid therapy using adequate dosage of cortisone, hydrocortisone, prednisone, prednisolone, An tocoyl, Medrol, or ACTH. Bed rest. Supportive treatment. Avoid exposure to sunlight. Systemic lupus erythematosus may run a benign course not requiring intensive steroid therapy.

### Mongolian Blue Spot

**Synonym** None

**Sites of predilection** Lower sacral area.

**Objective symptoms** Various-sized and variously shaped bluish or dark brown macular lesions which range in size from 2 to 10 cm in diameter. The lesions are partially to well defined of normal skin texture and noninflammatory.

They are more commonly seen in Asians and in Negroes, but they also occur in Caucasians. These nevus-like lesions usually disappear or become less obvious after a few months.

*Subjective symptoms.* None

*Etiology.* Congenital.

*Histopathology.* The specific cells responsible for the pigmentation resemble those of the blue nevus. The pigment is melanin.

*Diagnostic aids.* History and physical examination biopsy.

*Relation to systemic disease.* None

*Differential diagnosis.* Nevus of any type

*Therapy.* None. The condition is usually self-limited.

### Myriangomycosis (Ringworm of the Ear Canal)

Although this diagnosis is frequently made there is no laboratory foundation for its existence. These patients usually have a scaling macular eruption involving the external auditory canal and a portion of the auricle. The intensity of the lesions vary from mild erythema to lichenification with scaling, and fissure formation. Occasionally secondary pyogenic infection develops (associated with this condition in the presence of secondary pyogenic infection is the eruption known as infectious eczematoid dermatitis). This condition is actually not a fungus infection but is either eczematous dermatitis or neurodermatitis.

### Myxedema Generalized

*Synonym.* Hypothyroidism

*Sites of predilection.* Generalized

*Objective symptoms.* The skin is dry, yellowish, and edematous but does not pit on pressure. The lips and nose are thickened and the eyelids droop forming masklike expressionless faces, characteristic of the condition. There is irregular hyperpigmentation on exposed surfaces. The nail becomes fragile and there is generalized thinning of the hair. Hyperkeratosis may develop on the palms and soles. The patient is subnormal mentally, moves sluggishly, is apathetic, and his hearing and speech are affected.

*Subjective symptoms.* The cutaneous lesions are not productive of subjective symptoms.

*Etiology.* Hypothyroidism. The condition may develop following thyroidectomy.

*Histopathology.* Viscerous infiltration of the cutis with development of immature connective tissue cells.

*Diagnostic aids.* History and physical examination basal metabolic rate protein bound iodine test biopsy.

*Relation to systemic disease.* Myxedema is caused by thyroid insufficiency.

*Differential diagnosis.* Scleroderma sclerodema elephantiasis

*Therapy.* Treatment of the thyroid insufficiency

### Myxedema Localized Pretibial

*Synonym.* Pretibial myxedema

*Sites of predilection.* Extensor surfaces of the legs

*Objective symptoms.* The lesions are variously sized irregular plaques of nonpitting edema. Small papules may be present on the surface of the lesions. The follicular orifices are greatly dilated. The color of the skin in the involved area varies from pale yellow to light reddish-brown. Associated with localized myxedema there are signs of hyperthyroidism including exophthalmos.

*Subjective symptoms.* The cutaneous lesions are asymptomatic.

*Etiology.* The mechanism of production of localized myxedema in the presence of hyperthyroidism is unknown. It has been theorized that the mechanism of production of localized myxedema is the same as that responsible for the production of exophthalmos. The lesions may develop following thyroidectomy.

*Histopathology.* There is mucinous infiltration in the cutis and immature connective tissue cells are present.

*Diagnostic aids.* History and physical examination basal metabolic rate protein bound iodine test Biopsy.

*Relation to systemic disease.* Localized myxedema is invariably associated with hyperthyroidism, particularly with exophthalmos.

*Differential diagnosis.* Elephantiasis scleroderma  
*Therapy.* There is no effective therapy for the cutaneous lesion.

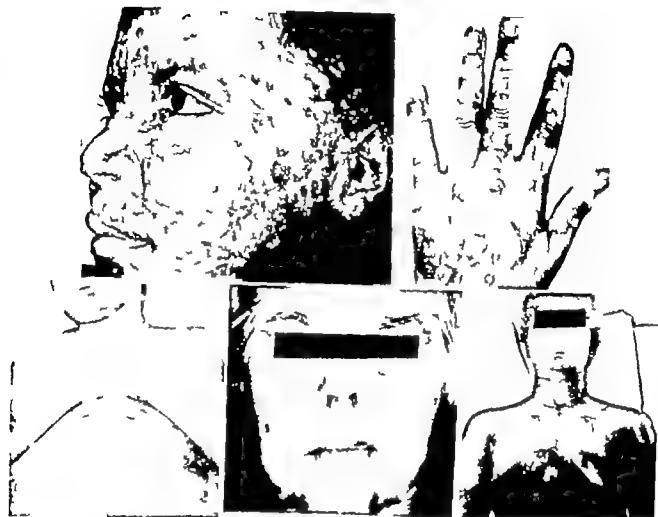


FIG. 30 Systemic lupus erythematosus

**Etiology** Unknown. The condition occurs most commonly in females.

**Histopathology** Atrophy of the epidermis with severe edema in the lower cells of the rete; lack of infiltrate and marked edema in the cutis.

**Diagnostic aids** Biopsy, lupus erythematosus cell studies, albumin-globulin ratio, hemograms, x ray of chest, liver function studies, electrocardiogram, electrophoresis.

**Relation to systemic disease** The condition occasionally develops in the absence of skin lesions. Clinical manifestations are frequently produced by excessive exposure to sunlight. Systemic manifestations of lupus erythematosus include hepatitis, bronchopneumonia, pulmonary abscess, pleural effusions, verrucous endocarditis, depression of the bone marrow, polyserositis, peritonitis, nephrosis, nephritis, and thrombocytopenic purpura.

**Differential diagnosis.** The cutaneous lesions resemble those of purpura, erythema multiforme, urticaria, seborrheic dermatitis, or eczema.

**Therapy** Systemic steroid therapy using adequate dosage of cortisone, hydrocortisone, prednisone, prednisolone, Aristocort, Medrol, or ACTH. Bed rest. Supportive treatment. Avoid exposure to sunlight. Systemic lupus erythematosus may run a benign course not requiring intensive steroid therapy.

### Mongolian Blue Spot

**Synonym** None

**Sites of predilection** Lower sacral area

**Objective symptoms** Various sized and variously shaped bluish or dark brown macular lesions which range in size from 2 to 10 cm. in diameter. The lesions are partially to well defined, of normal skin texture and noninflammatory.

lar nevus in which there is a profuse growth of hair.

*Subjective symptoms* None except the embarrassment caused by the cosmetic defect.

*Etiology* Congenital.

*Histopathology* The nevus cells are characteristically large, pale or dark, and have oval nuclei. These cells, occurring in strands and nests, are massed in the cutis.

*Diagnostic aids* Biopsy.

*Relation to systemic disease* None.

*Differential diagnosis* Varicoides café-au-lait spots of neurofibromatous warts of various types.

*Therapy* There is no specific treatment. The larger lesions may be removed by plastic repair. These lesions do not respond to radiation.

### Nevus Vasculosus

*Synonym* Nevus flammeus port wine stain.

*Site of predilection* Over any part of the body.

*Objective symptoms* Three well-defined red to purplish-red macular lesions vary in size from 1 to 20 cm. or more in diameter. The lesions may be slightly raised, presenting a plaque-like appearance with few to numerous dark papules or nodules scattered over the surface.

A variant of this nevus is the irregularly shaped, reddish, macular lesion which frequently occurs on the back of the neck, just below the external occipital protuberance and makes its appearance at birth. This type of lesion frequently may disappear spontaneously within the first 10 years of life or be persistent.

*Subjective symptoms* None except the embarrassment caused by the cosmetic defect.

*Etiology* Congenital.

*Histopathology* This varies with the extent and severity of the lesion and may be manifested as simple anastomosis with vascular dilatation in the upper cutis.

*Diagnostic aid* Clinical appearance, biopsy.

*Relation to systemic disease* May be associated with the Sturge-Weber syndrome.

*Differential diagnosis* Clinical appearance is diagnostic.

*Therapy* Small lesions may be obliterated by the

use of carbon dioxide snow. In infant and young children satisfactory results have been obtained with the use of Grenz ray or thorium X.

### Papillary Vascular

*Synonym* Cayenne pepper spots, senile angiodoma. *Site of predilection* The trunk.

*Objective symptoms* These are small, bright red or purplish papules which vary in size from 1 to 3 mm. in diameter. The papule may be composed of dilated blood vessel or it may be filled with fluid blood. The lesions occur most commonly on the trunks of middle aged or elderly persons.

*Subjective symptoms* None.

*Etiology* Unknown.

*Histopathology* The epidermis over these lesions is atrophic. Elastic tissue is greatly diminished. There are densely packed groups of dilated capillaries.

*Diagnostic aids* Clinical appearance, biopsy.

*Relation to systemic disease* None.

*Differential diagnosis* Nevus araneus, nevus vasculosus.

*Therapy* Excision or electrodestruction.

### Pellagra

*Synonym* None.

*Site of predilection* Dorsal surfaces of the hands, wrist, forearms, the face, neck, and exposed portion of the chest, the feet and legs. Mucous membranes are also involved.

*Objective symptoms* The cutaneous lesions begin



F 40 Pellagra



**Nevus Anemicus**

*Synonym* Anemic nevus

*Sites of predilection* Chest face back and other areas.

*Objective symptoms* The lesions which vary in size and shape from 2 to 5 cm in diameter are depigmented macules. The borders are sharply defined and the surrounding skin is normal in color. There is no change in skin texture.

*Subjective symptoms* None

*Etiology* Congenital

*Histopathology* There is a lack of blood vessels in the involved areas. Elastic fibers are normal in amount. The epidermis is unchanged.

*Diagnostic aids* History and physical examination biopsy

*Relation to systemic disease* None

*Differential diagnosis* Vitiligo

*Therapy* None

**Nevus Araneus**

*Synonym* Spider nevus spider mole

*Sites of predilection* Face trunk and extremities.

*Objective symptoms* This common vascular nevus consists of a tiny central red spot from which numerous, tortuous, minute vessels radiate for a short distance. The central point may be slightly elevated. The lesion may pulsate. In children these lesions are frequently self limited. In adults, they are persistent.

*Subjective symptoms* None

*Etiology* Congenital. May be associated with systemic illnesses may be associated with pregnancy.

*Histopathology* The microscopic picture is not diagnostic.

*Diagnostic aids* Clinical appearance

*Relation to systemic disease* The lesions are usually congenital. They have also been associated with chronic alcoholism, estrogenic hormone therapy, pregnancy and liver disease.

*Differential diagnosis* Telangiectases from any cause

*Therapy* In young children the lesions are usually self limited and no treatment is indicated. In adults the lesions may be obliterated by the use of electrolysis or high frequency current. The

needle must be inserted into the central vessel before the current is turned on.

**Nevus Follicularis**

*Synonym* Nevus comedonicus

*Sites of predilection* Face and trunk.

*Objective symptoms* A unilateral circumscribed area which varies in size and is irregularly shaped and in which there are numerous lesions resembling comedones. These comedo-like lesions are dilated follicles which are filled with keratin. Cystic lesions and nodule-like lesions may develop.

*Subjective symptoms* None

*Etiology* Congenital

*Histopathology* Cystic cavities are lined with stratified hyperkeratotic epithelium and fat cells. The sweat glands in the region of the nevus are distorted.

*Diagnostic aids* Biopsy

*Relation to systemic disease* None

*Differential diagnosis* Chloroma tattoo

*Therapy* Excision and plastic repair dermabrasion

**Nevus Pigmentosus**

*Synonym* Pigmented nevus birthmark mole hairy mole bathing trunk nevus nevus pilosus junction nevus.

*Sites of predilection* May occur on any part of the body. The bathing-trunk nevus involves the lower trunk and upper thighs.

*Objective symptoms* These lesions are well defined macules which are most commonly present at birth or develop during the first few years of life. The lesions vary in size and shape from a few millimeters to large plaques many centimeters in diameter. They vary in color from tan to dark brown or black. They are soft in texture, not inflamed and not elevated. Dark brown to blackish papules may appear in the larger plaque-like lesions.

The bathing trunk nevus is a medium to dark brown nevus which involves the lower trunk, the genitalia and the upper portions of the thighs.

Nevus pilosus is the name applied to a macu-

nettes or Negroes. It is associated with the seborrheic dermatitis complex.

*Subjective symptoms* None as a general rule. Slight itching may be present.

*Etiology* Unknown.

*Histopathology* Slight hyperkeratosis and acanthosis with a nonspecific cellular infiltrate in the upper layer of the cutis.

*Diagnostic aids.* Clinical appearance.

*Relation to systemic disease* None.

*Differential diagnosis* Vitiligo, eczema, tinea circinata.

*Therapy* The condition is usually self-limited. An ointment containing 2.5 per cent of salicylic acid and precipitated sulfur in petrolatum is usually satisfactory.

### Pityria Is Rosea

*Synonym.* None.

*Sites of predilection.* Trunk, neck, thighs, and arms.

Lesions seldom appear on the face.

*Objective symptoms.* A herald patch which may precede the onset of the generalized eruption by one to three weeks, is a single large round or oval slightly raised annular lesion. This macular lesion may or may not be present. The generalized eruption consists of numerous, discrete pinkish, oval or round, macular or papular well defined lesions. Central involution may occur forming annular lesions which vary in color from dull red to pink. Scale formation may be central or marginal but usually peel toward the margin. The long axis of the oval lesions parallel the lines of cleavage.

Because of overzealous treatment or local irritation the eruption may become eczematized and the lesions lose their sharp definition.

The eruption is self-limited disappearing spontaneously in 8 to 10 weeks. Recurrences are rare. It is noncontagious.

*Subjective symptoms* None to slight or severe itching.

*Etiology* Unknown. It may be infectious in origin. The highest incidence of the eruption is during the late fall, winter and early spring months.

*Histopathology* Not diagnostic. There is vascular dilatation of the capillaries in the papillae with a mild inflammatory infiltrate consisting of lymphocytes and plasma cells.

*Diagnostic aids.* Clinical appearance rule out fungus infection by scraping and culture.

*Relation to systemic disease* No specific relationship.

*Differential diagnosis* Macular syphilis, tinea circinata, seborrheic dermatitis, eczema.

*Therapy* Ultraviolet in erythema doses. Calamine lotion and other antipruritics. Emollient baths.

### Polikioderma Atrophicans Vascularis

*Synonym* Polikioderma atrophicans vascularis of Jacobi.

*Sites of predilection* Axillary folds, inguinal regions, and other part of the body. Rarely on the face.

*Objective symptoms.* The eruption begins as circumscribed macular lesions which generally spread to involve the entire body. The lesions are well-defined to partially-defined, confluent areas of reddish brown macules in which there are telangiectatic capillary hemorrhages, and areas of depigmentation. The surface is dry, wrinkled, and atrophic. The clinical appearance resembles that of roentgen ray dermatitis.



F 41 Pityriasis rosea.

as erythematous macules simulating sunburn. As the eruption develops the lesions become dark red and hyperpigmented. The skin in the involved areas is edematous and exfoliation occurs in large flakes or plaques. The eruption is usually sharply demarcated at the distal thirds of the forearms and the legs producing the so-called glove and stocking appearance. In intervals between attacks, the skin retains its hyperpigmentation but with repeated attacks, hyperkeratotic lesions may develop on the exposed surfaces. An unpleasant odor accompanies the skin eruption.

Associated with the cutaneous lesions there is fissure formation at the commissures of the lips (perleche) and a beefy red appearance of the tongue and buccal mucosa.

Severe systemic symptoms are associated with the cutaneous and mucous membrane lesions.

Sunlight apparently has an influence on the development and exacerbation of lesions.

**Subjective symptoms.** Cutaneous lesions itch or burn. Other symptoms vary in severity with the degree of systemic involvement.

**Etiology.** Deficiency in the vitamin B complex particularly nicotinic acid. Dietary inadequacy.

**Histopathology.** Nonspecific. There is irregular hyperkeratosis, atrophy of the epidermis and an inflammatory infiltrate in the upper layers of the cutis.

**Diagnostic aids.** History and physical examination.

**Relation to systemic disease.** The cutaneous lesions are important as diagnostic factors only. This is a specific avitaminosis. The classical four D's of dermatitis, diarrhea, dementia and death indicate the degrees of severity.

Neurologic manifestations include polyneuritis and parosmias. Psychotic symptoms may be mild or severe. Gastrointestinal symptoms vary from mild digestive disturbances to severe watery diarrhea. Secondary monilial infection may occur in the mouth or about the genitalia. Emaciation and weakness may be extreme.

Although this condition predominates in persons of the lower economic strata and the elderly, the condition may also occur in chronic

alcoholics or mentally defective individuals who refuse to eat proper foods.

**Differential diagnosis.** Eczema, sunburn, seborrheic dermatitis, contact dermatitis.

**Therapy.** Nicotinic acid by mouth or by injection, vitamin B complex by mouth or by injection, adequately balanced diet containing large amounts of protein, restriction of alcohol intake.

### Pigmentary Dermatoses Progressive

**Synonym.** Schamberg's disease, hemosiderosis.

**Sites of predilection.** Lower extremities.

**Objective symptoms.** The eruption begins with the development of minute pin-point reddish, macular lesions which spread peripherally to form irregular confluent areas. The reddish spots (cayenne pepper spots) eventually disappear leaving confluent brownish or reddish brown pigmented areas which may be persistent or slowly fade. Lichenification and scaling may develop as secondary manifestations.

**Subjective symptoms.** None.

**Etiology.** Unknown.

**Histopathology.** The epidermis may be normal or hyperkeratotic and hyperpigmented. The cellular infiltrate in the cutis consists of connective tissue cells and polymorphonuclear leukocytes, some of which contain iron pigment granules. When the inflammatory reaction subsides there is a deposit of hemosiderin.

**Diagnostic aids.** Biopsy.

**Relation to systemic disease.** None.

**Differential diagnosis.** Stasis dermatitis.

**Therapy.** None of any value.

### Pityria Is Alba

**Synonym.** None.

**Sites of predilection.** Face, chest and upper extremities.

**Objective symptoms.** The lesions are ill defined or partially defined slightly scaly partially depigmented macules. It occurs most commonly in infants and young children. It may begin as an erythematous macule which is slightly scaly and when the erythema subsides the depigmentation remains. This condition occurs in all races but the lesions are more obvious in brun-

**Relation to systemic disease** This condition is frequently associated with diabetes mellitus, carcinoma disease of the ovaries and tubes, malignancy, systemic infection, and senescence.

**Therapy** The elimination of local causative factors. One per cent hydrocortisone ointment or other topical steroid preparations are of value. Adequate sedation is usually necessary. Mycotic ointment is indicated in the treatment of monilial infections.

### Pseudocanthoma Elaeolum

**Synonym.** Granibled-Strandberg syndrome.

**Sites of predilection** Sides of the neck, the axillary folds, the groins, and the umbilical region.

**Objective symptoms.** This condition, which is usually limited to adults, develops as discrete and confluent small yellowish-white maculopapules which coalesce to form plaques. The skin in the involved areas is soft and velvety. Occasionally calcification develops in the lesions. On ophthalmoscopic examination angiod streaks may be seen in the retina.

**Subjective symptoms** None.

**Etiology** Unknown.

**Histopathology** There is fragmentation and clumping of the elastic tissue which takes a basophilic stain.

**Diagnosis and Biopsy**

**Relation to systemic disease** The elastic tissue of any or all of the blood vessels in the body may be involved. The condition may occur in association with scleroderma or lupus erythematosus. Severe gastric or uterine hemorrhage, hypertension, aneurysms, and calcification of the vessel of the lower extremities have been reported in association with this condition.

**Differential diagnosis** The bluish appearance is characteristic.

**Therapy** None effective.

### Purpura Annularis Telangiectodes

**Synonym.** Majocchi disease.

**Sites of predilection** Lower extremities.

**Object symptoms** Lesions are sharply defined bright pink to red macules, which are distributed over the thighs, legs and feet and occasionally on the upper extremities and trunk.

The lesions are well defined, round or irregular annular macules. Brownish pigmentation suggestive of hemosiderosis develops about the periphery of the annular lesions. Telangiectases develop throughout the lesions.

**Subjective symptoms** Mild itching may be present.

**Etiology** The cutaneous lesions may be a manifestation of some underlying systemic disease.

**Histopathology** The epidermis is not involved. There are vascular dilatation, perivascular round-cell infiltration and iron pigment deposits in the cutis.

**Diagnostic aids.** Biopsy, general physical examination, bleeding and clotting time, hematocrit.

**Relation to systemic disease** This cutaneous lesion may be a manifestation of cardiovascular disease, endocrine disturbances or other constitutional diseases.

**Differential diagnosis** Petechiae, disease pigmented purpura, lichenoid dermatitis, eczema.

**Therapy** Treatment of systemic illness.

### Purpura Thrombocytopenic

**Synonym.** Purpura simplex, Henoch's purpura, Schönlein purpura, symptomatic purpura.

**Sites of predilection.** May be generalized. Extent of lesions varies with type and severity.

**Objective symptoms.** Purpura simplex is manifested by an eruption of variously sized red to purplish macular lesions which do not blanch on pressure. The condition is characterized by relapses and remissions. The tourniquet test may or may not be positive. Occasionally urticaria or erythema multiforme may accompany the attacks.

Henoch's purpura usually occurs in childhood. Urticaria or erythema multiforme may occur concurrently with the development of the purpuric lesions. The condition is frequently accompanied by hematogenous abdominal discomfort, and tarry stools.

Schönlein's purpura or purpura simplex associated with arthritis or rheumatic fever. The hemorrhagic type of erythema multiforme may develop.

**Subjective symptoms** The cutaneous lesions are usually asymptomatic. Urticarial lesions may cause itching. Other subjective symptoms are

*Subjective symptoms* Mild to moderate itching

*Etiology* Unknown

*Histopathology* There is atrophy of the epidermis perivascular round cell infiltration degeneration of collagen and diminution to disappearance of the elastic tissue

*Diagnostic aids* Biopsy

*Relation to systemic disease* This condition may develop into granuloma fungoides.

*Differential diagnosis* Roentgen ray dermatitis lupus erythematosus granuloma fungoides scleroderma melanosis of Richl

*Therapy* None effective

### Pruritus Ani

*Synonym* Itching anus

*Sites of predilection* Anus and perianal region

*Objective symptoms* Objective symptoms vary from none to chronic lichenified dermatitis with fissure formation. If an eruption is present it begins as a reddish edematous, macular lesion which encircles the anus and extends toward the coccyx and the perineum. The surface is excoriated and blood crusting may be present. In the chronic stage the skin in the involved area becomes thickened and lichenified. Fissures develop in the gluteal cleft over the coccyx, and in the perineum.

Pruritus ani which develops following systemic antibiotic therapy presents an eczematous appearance and is usually complicated by monilial infection. In these patients the surface of the lesion is nunciated and is covered with a moist whitish film.

*Subjective symptom* Moderate to intense itching. Loss of sleep and emotional instability may develop as a result of severe subjective symptoms.

*Etiology* Where objective symptoms are absent emotional tension diabetes food allergy or other systemic illness may be the responsible agent.

Systemic antibiotic therapy is a frequent cause of this condition. Fungus infection and contact sensitization may also be productive of pruritus ani. Intestinal tumors, foreign bodies and colitis may also cause anal itching.

*Histopathology* The microscopic picture is non-specific.

*Diagnostic aids* Adequate history and physical examination blood picture urinalysis scrapings and culture for fungi rectal examination.

*Relation to systemic disease* Diabetes mellitus Hodgkin's disease rectal malignancies systemic infection mental illness and allergic disturbances are among the underlying systemic diseases responsible for the production of pruritus ani.

*Differential diagnosis* Fungus infection animal parasitic diseases eczema

*Therapy* Treatment of the underlying systemic disease. Adequate sedation local application of hydrocortisone ointment or lotion or other steroid preparations.

### Pruritus Vulvae

*Synonym* Itching vulva

*Sites of predilection* Female genital area

*Objective symptoms* Objective symptoms may be absent. The lesions vary in appearance according to the causative factors. The eruption may involve a single localized area on one labium majus or it may be generalized involving both labia the mons pubis, the perineum, and the labia minora. In the early stages the lesions are pinkish macules but as the eruption becomes persistent the skin becomes thickened and lichenified. Excoriations are present. Furuncles may develop. If secondary monilial infection occurs the involved areas may be covered with a whitish film. The eruption may extend across the perineum to surround the anus. Pruritus vulvae is also a symptom of kraurosis vulvae.

*Subjective symptoms* Moderate to intense itching.

*Etiology* Pruritus vulvae like pruritus ani is a symptom and not a disease. It may be a fungus infection *Trichomonas vaginalis* emotional tension contact dermatitis, parasitic infestation and various systemic diseases.

*Histopathology* The microscopic picture is not diagnostic.

*Diagnostic aids* Complete blood picture urinalysis history and physical examination vaginal examination cultures for fungi studies for *Trichomonas vaginalis*.



F 42 Radiodermatitis. A Following treatment for hemangioma. B Following treatment for hemangioma. C Following treatment for acne 20 years ago. D Epithelioma on the nose.

**Histopathology** Atrophy of the epidermis, dilatation of vessels, degeneration of collagenous tissue, and absence of appendages. Dyskeratotic cells, karyorrhexis, epitheliomatous degeneration, and squamous cell carcinomas are seen in later stages.

**Diagnostic aids** History and physical examination biopsy.

**Relation to systemic disease** None.

**Differential diagnosis** Farmer-skin skin xeroderma pigmentosum poikiloderma atrophicum vasculare telangiectasia granuloma fungoides.

**Therapy** Excision of small areas steroid ointments may be of value in treatment of the acute phase operative removal of carcinomas.

## Raynaud Disease

**Synonym** None.

**Site of predilection.** Extremities

**Objective Symptoms** The condition begins gradually as intermittent episodes during which the fingers and toes become pale with marked decrease of the skin temperature. The symptoms are more severe in cold weather. Eventually the affected parts become persistently cyanotic. Gangrene develops when the vasospasm is complicated by thrombosis. The fingers, toes, or both may be equally affected.

**Subjective symptoms** Numbness, tingling, and pain. Exposure to cold produces pain.

those related to the systemic disease causing the eruption

**Etiology** Ipecacillin coal tar antipyretics tetanus antitoxin smallpox vaccine other drugs and food allergens are frequently responsible for the production of these lesions. Ingestion of alcohol may produce purpura simplex. Henoch's purpura may be caused by bacterial infection food or drug allergies. Schönlein's purpura is associated with rheumatic fever.

**Histopathology** Vascular dilatation with hemorrhage into the cutis.

**Diagnostic aids** History physical examination complete blood picture bleeding and clotting time tourniquet test prothrombin time

**Relation to systemic disease** The condition may indicate some underlying allergic disease rheumatic fever vitamin deficiency kidney damage liver damage systemic bacterial infections, and endocrine disorders.

**Differential diagnosis** Thrombocytopenic purpura

**Therapy** Treatment of the underlying disease

Local therapy is of no value

### Purpura Thrombocytopenic

**Synonym** Primary idiopathic purpura purpura hemorrhagica

**Sites of predilection** Extremities mucous membranes occasionally generalized

**Objective symptoms** This is a severe frequently fatal condition characterized by extensive hemorrhages into the skin mucous membranes, and viscera. The cutaneous lesions are discrete and confluent small and large red bluish red or dark purplish areas from which the color can not be expressed by pressure. Associated with the skin lesions, there is frequently hemorrhage from the mucous membranes of the nose and mouth with the formation of blood crusts on the lips. The gums are soft and spongy and bleed on the slightest trauma. Splenomegaly may develop.

There is a marked decrease in the platelet count prolongation of bleeding time increased capillary fragility and delayed clot retractility. The morphology of the blood cells is unchanged.

**Subjective symptoms** Weakness, anorexia

**Pathology** Unknown. The symptoms result from the destruction of platelets, red cells, and other formed elements of the blood.

**Histopathology** Capillary fragility with hemorrhage into the cutis.

**Diagnostic aids** History and physical examination complete blood picture bleeding and clotting time platelet count prothrombin time

**Relation to systemic disease** Condition may be associated with congenital hemolytic anemia primary pancytopenia, and aplastic anemia.

**Differential diagnosis** Purpura simplex.

**Therapy** Transfusions vitamin K splenectomy systemic corticosteroid therapy. Local therapy is of no value.

### Radiodermatitis

**Synonym** X ray burn radium burn

**Sites of predilection** Any area exposed to ionizing radiation

**Objective symptoms** There are three types of cutaneous postirradiation damage:

1. Hyperpigmentation freckling mild hypertrichosis and skin dryness may occur during or after a course of fractional x ray treatment for acne vulgaris or other benign conditions. The intensive radiation therapy used for the treatment of epitheliomas usually produces an inflammatory reaction with edema and a deeply pigmented area which outlines the site of therapy. If the dose has not been excessive the reaction subsides without sequelae.

2. After a period of months or years following excessive radiation therapy (radium or x ray) atrophic scarring telangiectasia and permanent hair loss develop. Keratosis may form.

3. Another delayed reaction to excessive radiation is the development of indolent ulcers and squamous cell epithelioma in the areas of atrophic scar formation.

**Subjective symptoms** Moderate to severe discomfort may accompany acute radiodermatitis. Later lesions may cause pain.

**Etiology** Excessive radiation therapy or careless use of diagnostic x ray equipment by untrained personnel.

10 to 15 days the eruption may begin in the buccal mucosa with reddened fauces coated tongue and reddish lesions with central, white points (Koplik's spots) opposite the molars. The cutaneous lesions first appear on the face and spread to involve the neck and then the rest of the body. The lesions are numerous variously sized, small macules and papules which range in size from 2 mm. to 1 cm. in diameter. The larger lesions are oval or crescent shaped, ill defined and reddish, and appear primarily on the trunk. After 4 to 6 days the eruption fades and a fine furfuraceous exfoliation occurs. Koplik spots disappear when the cutaneous lesions develop.

Upper respiratory symptoms include rhinitis, laryngitis and stomatitis. Conjunctivitis is the major ocular symptom. At the height of the disease the temperature ranges from 101 to 104°F. The eruption lasts from 3 to 10 days.

**Subjective symptoms** Malaise photophobia chills and fever and slight itching.

**Etiology** A filtrable virus

**Histopathology** The microscopic picture is not diagnostic

**Diagnostic aids** History and physical examination throat culture

**Relation to systemic disease** Measles is frequently productive of sequelae such as pneumonia and encephalitis.

**Differential diagnosis** Rubella scarlatina macular syphilid pruritus rosea erythema simplex drug eruptions Rocky Mountain spotted fever

**Therapy** Bed rest supportive treatment

### Rubella

**Synonym** German measles three day measles

**Site of production** Generalized.

**Objective symptoms** The condition begins with mild prodromal symptoms. The eruption first appears on the face then spreads to the neck and chest. The lesions are numerous, discrete, partially to well defined pinkish macules or maculopapules with absence of scale. The lesions are numerous and so closely grouped that the condition simulates scarlatina. Associated with the eruption there is enlargement of the postcervical, postauricular and suboc-

cipital lymph nodes. The patient's temperature seldom exceeds 100°F. The lesions fade in from 3 to 5 days without perceptible exfoliation. The incubation period is from 14 to 21 days. One attack confers immunity.

**Subjective symptoms** Slight malaise

**Etiology** A filtrable virus

**Histopathology** The microscopic picture is not diagnostic.

**Diagnostic aids** History and physical examination

**Relation to systemic disease** The cutaneous lesions are evidence of a systemic virus infection. Rubella complicating pregnancy may produce congenital defects in the fetus.

**Differential diagnosis** Measles macular syphilid drug eruptions scarlatina erythema simplex.

**Therapy** Bed rest aspirin.

### Scarlatina

**Synonym** Scarlet fever

**Site of production** Generalized.

**Objective symptoms** The condition is manifested by a sudden onset of a macular eruption which quickly involves the entire body. The lesions are closely aggregated, discrete minute bright red macules which give the body surface a scarlet hue. There is usually circumoral pallor. The bright red color temporarily disappears on light pressure. When the acute phase subsides between the seventh and tenth days exfoliation begins in small flakes or in large plaques and is profuse. "Glove and stocking" exfoliation occurs and occasionally the nail plates are lost.

The buccal mucosa is usually bright red and the tonsils and uvula are swollen and present red punctae. There is a characteristic strawberry tongue which is at first coated and then red, glazed, and covered with enlarged papillae. The cervical nodes are enlarged.

**Subjective symptoms** The patient is acutely ill with sore throat, headache, vomiting, chills and fever (104 to 105°F) and occasionally convulsions.

**Etiology** Hemolytic streptococci.

**Histopathology** The microscopic picture is not diagnostic.



**Etiology** Unknown. This condition occurs more commonly in females before the age of forty. Associated factors are heredity, psychogenic stimuli and endocrine imbalance. Use of tobacco may be a factor.

**Histopathology** The microscopical picture is not diagnostic.

**Diagnostic aids.** History and physical examination peripheral vasodilation induced by drugs, skin temperature studies.

**Relation to systemic disease.** The condition is associated with scleroderma, other collagen diseases, emotional tension and hereditary vascular defects.

**Differential diagnosis.** Thromboangitis obliterans, arteriosclerotic gangrene.

**Therapy.** Vasodilator drugs may be of value. Ithyotherapy, rest, restriction of the use of tobacco, avoidance of cold and sympathetomy.

### Rosacea

**Synonym.** Rum blossom, rum nose.

**Sites of predilection.** Nose and cheeks.

**Objective symptoms.** The condition begins insidiously as ill-defined bright red transient areas involving the nose and the contiguous portions of the cheeks. This transient hyperemia may last for a few days and disappear completely. The lesions recur frequently.



FIG. 43. Rosacea.

The hyperemia eventually becomes persistent and the involved areas are dull red to bright red. Small dilated blood vessels are present over the alae of the nose and the flush areas of the cheeks. The affected skin is comparatively cool.

The ultimate picture known as *rhinophyma* is one of tissue proliferation. The skin of the nose and the nasolabial folds become thickened with dilated follicles over the surface. Dilated and tortuous blood vessels are also present on the surface. The nose becomes bulbous in appearance.

Follicular papules and pustules frequently occur in any of the stages previously described. Because of sebaceous hyperactivity the skin surface is exceptionally oily. Seborrheic dermatitis is frequently present.

**Subjective symptoms.** Slight itching, emotional imbalance because of the disfigured appearance.

**Etiology.** Dietary indiscretions, alcoholism, emotional tension and foci of infection are commonly incriminated as causative factors.

**Histopathology.** There is hypertrophy of sebaceous glands. A round-cell and plasma-cell infiltrate occurs in the cutis. Occasionally a tuberculoid architecture is seen in chronic cases.

**Diagnostic aids.** History and physical examination.

**Relation to systemic disease.** Achlorhydria, hormonal imbalance, emotional instability, alcoholism.

**Differential diagnosis.** Lezenia, tuberculous cuti, acne vulgaris, bromide acne, lupus erythematosus.

**Therapy.** Correction of the abnormal physical state. Avoidance of alcohol, coffee and other stimulants. Sedation, the local use of colloidal sulfur lotions, systemic antibiotic therapy and dietary restriction. X-ray therapy is of little value. The dilated vessel may be obliterated with high frequency current.

### Rubella

**Synonym.** Measles, red measles.

**Sites of predilection.** Generalized.

**Objective symptoms.** After an incubation period of

ing the forehead and scalp is called *scleroderma en coup de sabre*.

*Diffuse scleroderma* may begin as areas of infiltration or edema but, when fully developed present large confluent areas involving a portion of an extremity or entire extremity the trunk, or the entire body. The skin is like leather, inflexible, yellowish, whitish, or waxy in appearance and there is loss of the normal topography. In advanced cases there is restriction of joint movement, diminution of thoracic expansion, loss of facial expression, inability to open the mouth, and inability to chew food. Muscular atrophy may develop and ulcerations occur.

*Croscroderma* is a syndrome which combines the features of scleroderma and Raynaud's disease. The fingers become fixed (claw like) and the skin becomes hidebound. This is called *sclerodactylia*. There is intermittent blanching of the fingers and occasionally the toes. Eventually the skin of the fingers and hands becomes cyanotic and occasionally ulcerations develop on the distal phalanges. Facial sclerosis is often associated with *acroscroderma* and *sclerodactylia*.

*Subjective symptoms*: The extent of the condition in the areas involved determines the subjective symptoms. Stiffness of the extremities inability to move because of the hidebound involvement of the skin over the joint, pain, dysphagia and hypersensitivity to cold may occur.

*Etiology*: Unknown.

*Histopathology*: There is atrophy of the epidermis and the collagen fibers are homogeneous and eosinophilic. Atrophy of striated muscle fibers and vascular occlusion are present.

*Diagnostic aids*: History and physical examination biopsy.

*Relation to systemic disease*: *Scleroderma* is a systemic disease. There is decreased peristalsis and rigidity of the esophagus. The entire gastrointestinal tract may be involved. Lung changes occur. The kidneys may be affected, and myocardial damage may develop.

*Differential diagnosis*: Vitiligo, scars, keloids, dermatomyositis.

*Therapy*: There is no satisfactory treatment. Steroids are of little value.

## THE SEBORRHEIC GROUP OF CONDITIONS

Seborrheic dermatitis, seborrhea oleosa, seborrhea sicca, pityriasis alba roseacea, and acne vulgaris are included in this group. Each condition will be discussed under the specific heading.

### Seborrhea Oleosa

*Synonym*: Oily skin.

*Sites of predilection*: Scalp, face, chest and back.

*Objective symptoms*: The skin in the involved areas is excessively oily because of an overabundant secretion of sebum. The hair becomes very oily and sometimes matted. The skin surface is shiny over the face, nose and forehead. The follicular orifices over the nose and the nasolabial folds are pustular.

*Subjective symptoms*: Embarrassment caused by the cosmetic defect.

*Etiology*: The exact cause is unknown. At puberty it may be the effect of excessive hormone secretion on sebaceous gland function. Dietary indiscretion, with the consumption of a large amount of oily food is undoubtedly a factor in many instances, regardless of age. Emotional tension also plays a role. The condition is common in adolescence.

*Histopathology*: There is hypertrophy of the sebaceous glands but no infiltrate in the cutis. Slight hyperkeratosis is present.

*Diagnostic aids*: History and clinical appearance biopsy.

*Relation to systemic disease*: Constitutional diseases such as acromegaly, hypothyroidism, and other hormone dysfunctions may be responsible for the production of this condition.

*Differential diagnosis*: The clinical appearance is typical.

*Therapy*: The scalp should be shampooed twice each week using a medicated shampoo such as Selenium Sulfide, Capreol or Domerone. A simple bland shampoo such as Dial dilute tincture of green soap or Breck is also satisfactory. The face may be cleansed with sulfur containing soap or simple bland soaps. One of the colloidal sulfur lotions, such as Hummer's or Lotio alba is useful.

*Diagnostic aids.* Schultz-Charlton reaction history and physical examination

*Relation to systemic disease.* Complications include mastoiditis, otitis media, nephritis, arthritis and toxemia.

*Differential diagnosis.* Rubella, rubella, drug eruptions, toxic dermatitis, erythema scarlatini formae

*Therapy.* Penicillin, sulfonamides, immune serum or gamma globulin may be of value

### Scleredema

*Synonym.* Scleredema adultorum of Burchke

*Sites of predilection.* Head, neck, and upper thorax.

*Objective symptoms.* This condition begins with an ill-defined pinkish macular eruption. This is followed by spreading induration and swelling of the skin and subcutaneous tissues. The thickening usually begins on the back of the neck and spreads over the scalp, face, and neck to the upper trunk. Although there is thickening and apparent edema, the surface does not pit on pressure. Cross inflammatory changes are absent and there is no hair loss, atrophy, or pigmentation. The condition occurs primarily in adults.

*Subjective symptoms.* There are usually no sensory changes; some discomfort is experienced because of the swelling.

*Etiology.* This condition usually develops following some infectious disease.

*Histopathology.* There is noninflammatory swelling of the collagen. Mucin is present between the collagen fibers about the vessels and the epidermal appendages.

*Diagnostic aids.* Biopsy

*Relation to systemic disease.* Hypoproteinemia, hydropneumonia, pleural and pericardial effusions may occur. Skin involvement is self-limited, usually involuting within a year.

*Differential diagnosis.* Scleroderma, sclerema, edema

*Therapy.* None specific. This condition is self-limited.

### Sclerema

*Synonym.* Sclerema neonatorum, sclerema adiposum

*Sites of predilection.* Generalized except the palms, soles, and scrotum

*Objective symptoms.* This condition, which usually appears at birth or during the first few weeks of life, is most commonly seen in premature infants. The skin lesions first appear on the calves or other portions of the lower extremities and rapidly extend upward to involve the entire body with the exception of the palms, soles, and scrotum. The surface is cold, dry, solid, and has a waxy, whitish color. The induration and rigidity may be severe enough to immobilize the joints and present difficulties in feeding. The prognosis is poor except in those cases where the lesions are limited in extent. Severe diarrhea, dehydration, and malnutrition may be associated symptoms.

*Subjective symptoms.* Difficulty in moving, inability to eat properly, and diarrhea.

*Etiology.* Unknown, probably defective fat metabolism.

*Histopathology.* Fat necrosis and needle-like crystals of fat are present.

*Diagnostic aids.* Biopsy

*Relation to systemic disease.* In advanced cases there is probably involvement of the visceral fat as well.

*Differential diagnosis.* Scleroderma, edema neonatorum, scleroderma

*Therapy.* Systemic steroid may be of value. Patient must be kept in a warm environment.

### Scleroderma

*Synonym.* Hardbound disease

*Sites of predilection.* May occur at any site

*Objective symptoms.* The circumscribed or localized type of scleroderma, morphea, develops as one or more discrete or confluent sharply defined, round or oval macular lesions ranging in size from 1 to 10 cm in diameter. The surface is whitish or ivory-colored, greatly thickened, and usually surrounded by a pinkish or violaceous halo. The surface may become atrophic or lose its normal topography. Small lesions, known as morphea guttata, may develop. These lesions may involute spontaneously.

A localized linear form of scleroderma invol-



F 41. Seborrheic dermatitis. A Extensive lesions on scalp and trunk. B Not festoon formation beyond the hairline. C Stimulating psoriasis. D Stimulating secondary syphilis. E Stimulating discoid lupus erythematosus. F With secondary pyogenic infection.

## Seborrhea Sicca

*Synonym* Dandruff pityriasis capitis.

*Sites of predilection* Scalp and eyebrows.

*Objective symptoms* Scant or profuse dry or oily whitish or yellowish white flaky scales are scattered throughout the hair. The scales vary in size from 1 to 3 mm in diameter. In severe cases an adherent collection of scale may form about the orifice of the hair follicle. The condition varies in severity from a moderate amount of scale to the profuse scaling noted in seborrheic dermatitis.

*Subjective symptoms* None to moderate itching.

*Etiology* Unknown. Scaling is a normal physiologic phenomenon; however in diseased states the production of scale becomes accelerated.

*Histopathology* Hyperkeratosis and exfoliation.

*Diagnostic aids* Rule out the presence of fungus infections by the use of scrapings and culture.

*Relation to systemic disease* None usually.

*Differential diagnosis* Lichenoid fungus infections.

*Therapy* Use Selsun Capsebion Foster or Domecine shampoo twice weekly. Resorcin-salicylie scalp lotion. Seba Nil or similar preparations may be of value.

## Seborrheic Dermatitis

*Synonym* None.

*Sites of predilection* Scalp, face, behind the ears, ear canals, pre-aural area, interscapular area and pubic area.

*Objective symptoms* In the scalp the lesions may develop as few to numerous partially or well defined discrete or confluent scaly areas. The eruption may involve the entire scalp and extend on the forehead as well defined reddish slightly infiltrated festooned lesions.

The lesion may appear in the external auditory canals as ill defined slightly infiltrated scaly macules which are covered with adherent scale or blood crust. Secondary infection may develop with the formation of pus crusts. Occasionally the entire auricle is involved. Well defined hemispherical infiltrated lesions frequently develop behind the ears. The reddish areas are covered with adherent dry scale and eventually

extend into the scalp and onto the back of the neck. Fissures develop in the sulcus between the ears and the scalp. The lesions which develop within the ear canal are frequently misdiagnosed as fungus infection.

The festooned lesions on the forehead may be pinkish in color or depigmented and are covered with a scant or profuse amount of adherent oily scale. Well defined, scaly macular lesions may develop anterior to the ears and in each nasolabial fold. On the anterior chest wall or between the scapulae the lesions develop as well defined discrete or confluent pinkish yellow macules covered with an adherent dry scale. Similar lesions may develop within the pubic area extending over the genitalia, perineum, and perianal area.

Annular lesions may form. At times the scaling is so profuse that differentiation from psoriasis is difficult. The lesions in the scalp may cause alopecia.

*Subjective symptoms* Moderate to marked itching.

*Etiology* Unknown. Contributing factors are emotional tension and dietary indiscretion. The condition has also been associated with debilitating diseases.

*Histopathology* There is slight acanthosis and parakeratosis. Some vascular dilatation is present in the papillary bodies. The picture is not specific.

*Diagnostic aids* History and physical examination biopsy is nonspecific.

*Relation to systemic disease* The condition is frequently associated with emotional tension and occasionally with debilitating diseases.

*Differential diagnosis* Lichenoid fungus infections, lupus erythematosus, eczema, pityriasis rosea.

*Therapy* An ointment containing 2.5 per cent sulfur and salicylic acid in petrolatum is valuable in local treatment. One per cent hydrocortisone ointment and other steroid ointments are also of value. If secondary pyogenic infection is present it should be treated with one of the antibiotic ointments. Selsun Capsebion Foster, or Domecine are of value in seborrheic dermatitis of the scalp.

### Tattoo Marks

#### *Synonym.* None

*Sites of predilection.* Intentional tattoo marks are usually produced on the upper extremities or trunk according to the patient's desire. Accidental tattoo marks produced by foreign bodies occur at sites of trauma.

*Objective symptoms.* The intentional tattoo marks are produced by injections into the skin of various pigments to form patterns such as pictures, roses, names, etc. The colors are blue, red, or green, depending on the type of ink injected. For several weeks after the tattoo has been performed the treated area is crusted, edematous, and erythematous. After the acute inflammatory symptoms subside the pigmentation remains.

Morphine addicts frequently develop bluish

spots at the site of injection, caused by the impurities contained in the product they inject. These lesions usually occur on the extremities or sides of the trunk.

Gunpowder or dirt may also be tattooed into the skin and remain as a permanent foreign body.

*Subjective symptoms.* None

*Histopathology.* Biopsy shows the presence of pigment in the cutis and subcutis.

*Diagnostic aids.* The clinical appearance is characteristic. History is important in accidental cases and in narcotic addiction.

*Relation to systemic disease.* None except in narcotic addicts.

*Differential diagnosis.* Clinical appearance is characteristic.

*Therapy.* The small lesions may be removed surgically. Dermabrasion is of no value.



FIG. 41a. Tinea circinata (due to *M. canis*) caused by contact with an infected cat.

### Striae Albicantes

*Synonym* Striae gravidarum atrophicae striae

*Sites of predilection* Trunk and thighs.

*Objective symptoms* These lesions may begin as purplish linear irregular or band like streaks. Later they appear as white smooth or wrinkled, slightly depressed atrophic scars.

*Subjective symptoms* None.

*Etiology* Lesions result from distortion and stretching of the skin associated with pregnancy, obesity, Cushing's disease and prolonged steroid therapy.

*Histopathology* Fragmentation of elastic tissue and scar formation.

*Relation to systemic disease* Iatrogenic, adrenalectomy, obesity, steroid therapy. Also seen as a common finding in pregnancy.

*Diagnostic aids* None.

*Differential diagnosis* Clinical picture is characteristic.

*Therapy* None.

### Syphilis Secundary

*Synonym* Macular manifestation of secondary syphilis.

*Sites of predilection* Trunk and extremities.

*Objective symptoms* The eruption consists of numerous ill defined nonscaly dull pinkish macules which present a blotchy appearance. The lesions are symmetrically distributed and are best seen at a distance of 3 or 6 feet from the patient with the light reflected against the skin at an angle. Macular lesions are rarely annular.

The chancre or the scar of the initial lesion may still be present. Associated with macular syphilid are erosive lesions on the mucous membranes, condylomata lata, moth-eaten alopecia, generalized lymphadenopathy, iritis, and other secondary manifestations.

*Subjective symptoms* Cutaneous lesions seldom provoke any subjective symptoms. Lesions in the mucous membranes may produce discomfort.

*Etiology* *Treponema pallidum* (See the chapter on Venereal Diseases).

*Histopathology* Basic pathology of all syphilitic

lesions is that of a perivascular round cell and plasma cell infiltrate.

*Diagnostic aids* Demonstration of the *Spirochaeta pallida* on dark field examination. A positive dark field may be obtained from macular or papular lesions by abrasion of the lesion to produce a moist surface. Dark field examination may also be performed by gland puncture. Serologic tests for syphilis must be done as part of the diagnostic routine.

*Relation to systemic disease* Syphilis is always a systemic disease.

*Differential diagnosis* Erythema multiforme, pityriasis rosea, rubella, rubioid, dermatitis medicamentosa, toxic dermatitis.

*Therapy* See the chapter on Venereal Diseases.

### Tar Melanosis

*Synonym* Melanosis of Riehl, poikiloderma of Civatte.

*Sites of predilection* Face, forehead, neck, and chest.

*Objective symptoms* The onset is gradual. The earliest lesions are erythematous macules with follicular hyperkeratosis and scaling. The eventual picture is that of a moderately extensive macular eruption consisting of discrete and confluent well-defined light to dark brown, reticulated lesions. The pigmentation is permanent.

*Subjective symptoms* Usually free of subjective symptoms. Early in the course there may be slight itching.

*Etiology* Tar melanosis is true contact photo-sensitization caused by the action of sunlight on acridine, anthracene and similar substances in contact with the skin.

*Histopathology* The microscopical picture is not diagnostic.

*Diagnostic aids* History and physical examination.

*Relation to systemic disease* Poikiloderma of Civatte occurs commonly in women at menopause.

*Differential diagnosis* Poikiloderma atrophicum, vasculare, actinic dermatitis, contact dermatitis, chloasma.

*Therapy* None of any specific value.

**Therapy** If there is no evidence of secondary pyogenic infection the lesions will usually respond to treatment with sulfur and salicylic acid ointment. If secondary pyogenic infection is present one of the antibiotic ointments such as Spectrocin should be used. Griseofulvin, administered systemically is of value.

### Tinea Cruris

**Synonym** *Eczema marginatum* jock itch

**Sites of predilection** Inner sides of the thighs, butoeks. More common in males than females.

**Objective symptoms** There is usually one confluent sharply defined reddish macule on the inner aspect of one or both thighs, extending into the groin and in olving the scrotum. The eruption frequently extends across the perineum to the buttocks. The areas are moderately infiltrated and scaly. The border is slightly elevated. Occasionally the surface is macerated and moist. The condition is usually worse in warm weather.

**Subjective symptoms** Moderate to severe itching.

**Etiology** *Trichophyton mentagrophytes*, *Epidermophyton floccosum* or *Trichophyton rubrum*. The cutaneous lesions produced by these organisms are similar although the eruption produced by *T. rubrum* is the most chronic.

**Pathology** The fungi may be demonstrated in the stratum corneum by the use of the Hotchkiss-McManus stain.

**Diagnostic aids** Fungi may be demonstrated by direct examination of scrapings, using the potassium hydroxide method or the ink-potassium hydroxide stain. The organism may be identified by culture on Sabouraud's medium.

**Relation to systemic disease** None.

**Differential diagnosis** Seborrheic dermatitis, eczema, psoriasis.

**Therapy** Castellani's paint (Carlsun) applied to the lesions twice daily. Three to five per cent ammoniated mercury ointment containing 1 per cent phenol may be of value. Griseofulvin is effective on systemic administration.

### Tinea Versicolor

**Synonym** *Pityriasis versicolor*

**Sites of predilection** Chest and back. The lesion



F 46 Tinea versicolor

which rarely involve the face may extend onto the neck, arms, abdomen and thighs.

**Objective symptoms** This macular eruption is characterized by the development of discrete and confluent small to large areas which tend to involve the major portion of the chest and back. The lesions are dry, well defined, and noninfiltrated. The color may be light tan (fawn-colored), pink, brown, or depigmented. In reflected light there is slight apparent elevation of the lesion, and the surface appears to be covered with a slightly wrinkled film. The lesions become more prominent during the summer.



### Tinea Circinata

#### Synonym Ringworm

*Sites of predilection* Face neck trunk and extremities.

*Objective symptoms* The lesions are single or multiple well defined round or oval pinkish or reddish scaly macules. They vary in size from 1 to 5 cm. in diameter and may be discrete or confluent. The lesions spread peripherally with a tendency towards central clearing to form annular lesions. Concentric rings may develop. The advancing peripheral margin may be vesicular or papular. Blood crusts may be present on the surface.

*Subjective symptoms* Mild or moderate itching.

*Etiology* This contagious disease is most com-

monly caused by *Microsporum audouinii* (the human type of *Microsporum*) or *Microsporum canis* (the animal type of *Microsporum* which is transmitted to humans from cats, dogs and monkeys).

*Histopathology* Fungi may be demonstrated in the stratum corneum by the use of the Hotchkiss-McManus stain.

*Diagnostic aids* The causative organism may be demonstrated by the use of the potassium hydroxide method or the ink-potassium hydroxide stain. Identity of the specific organism is made by culture on Sabouraud's medium.

*Relation to systemic disease* None.

*Differential diagnosis* Seborrheic dermatitis, pityriasis rosea, pityriasis eczema.



FIG. 45 Tinea Circinata

**Vitiligo Leukoderma**

**Synonym** Vitiligo is idiopathic depigmentation. Leukoderma is acquired depigmentation. These terms may be used synonymously.

**Sites of production.** The condition may occur on any part of the body.

**Objective symptoms.** There are variously sized and variously shaped, discrete and confluent sharply defined areas of total loss of pigment. There is a tendency for the lesions to spread peripherally. Hyperpigmentation may develop at the margin between the area of depigmentation and the normal skin. If the condition is persistent the hair in the involved area also loses its pigment. The depigmented area becomes bright red on slight exposure to sunlight but does not tan. Spontaneous remissions may occur.

**Subjective symptoms.** None caused by the cutaneous lesions. The condition may cause emotional imbalance due to the cosmetic defect.

**Etiology.** Vitiligo is idiopathic depigmentation. Leukoderma may develop following contact with silver nitrate or may follow some inflammatory condition such as psoriasis, herpes zoster and rezema. Leukoderma may also be a sequela of exfoliative dermatitis.



F 49. Vitiligo

**Histopathology.** There is absence of melanin in the basal layer.

**Diagnostic aids.** History and physical examination.

**Relation to systemic disease.** None.

**Differential diagnosis.** Pinta, morphea, leprosy (macular depigmented lesions).

**Therapy.** 8-Methoxy psoralen and exposure to ultraviolet rays.

mer months when the patient is exposed to sunlight. The areas involved by the disease fail to tan on exposure to sunlight.

This is a noncontagious disease. Attempts at experimental inoculation have consistently failed.

**Subjective symptoms.** None. Some patients complain of mild itching when they sweat profusely.

**Etiology.** *Malassezia furfur*.

**Histopathology.** The fungi may be demonstrated in the stratum corneum by use of the Hotchkiss-McManus stain.

**Diagnostic aids.** The short hyphae and clusters of spores of *M. furfur* may be easily demonstrated by the use of the potassium hydroxide or ink potassium hydroxide method. This organism has not been successfully cultured.

**Relation to systemic disease.** None.

**Differential diagnosis.** Chloasma, vitiligo, seborrheic dermatitis, pityriasis rosea.

**Therapy.** Saturated solution of sodium hypochlorite applied to the involved areas 4 times daily is effective. Selenium sulfide ointment (1 per cent) is an effective preparation.

### Trichophyton Corporis

**Synonym.** *Trichophyton rubrum* infection.

**Sites of predilection.** Trunk and extremities.

**Objective symptoms.** This noncontagious fungus infection may be limited to one or more finger nails or toenails, one or both palms, one or both soles, extensive plaques involving large portions of the trunk, or a single small area involving one buttock, one thigh, etc.

Involvement of the nails produces distortion, increased fragility, pit formation and thickening of the nail plate. If the palms or soles are involved the lesions are excessively dry, dull red, scantly scaly and fissured. On the trunk or extremities the plaques are sharply defined, dull red, scantly scaly and resemble the lesion of seborrheic dermatitis or psoriasis. Blood crusted excoriations may be present. The sharply defined border may be slightly elevated.

**Subjective symptoms.** The lesions cause variable itching.

**Etiology.** *Trichophyton rubrum*.



FIG. 47. Trichophyton corporis caused by *Trichophyton rubrum*.

**Histopathology.** The fungus may be demonstrated by the Hotchkiss-McManus stain in the stratum corneum.

**Diagnostic aids.** Culture on Sabouraud's medium is necessary for identification of the organism. Examination of skin scrapings or particles of nail by use of potassium hydroxide or ink potassium hydroxide stain is an immediate diagnostic measure.

**Relation to systemic disease.** None.

**Differential diagnosis.** Eczema, seborrheic dermatitis, psoriasis.

**Therapy.** This type of fungus infection is treatment resistant. Vaseline ointment and tincture and 5 per cent sulfur-salicylic acid ointment may be of value. Griseofulvin is an effective systemic medication.



F 40 Acne Keloid

### Acne Rosacea

Rosacea has been described in the chapter on Macular Eruptions. When the disease is complicated by the presence of papules or papulopustules it is known as *acne rosacea*. Treatment is the same as for rosacea.

### Acne Vulgaris

*Synonym* Pimple; acne

*Sites of predilection* Face, chest, and back.

*Objective symptoms* The primary lesion is a follicular papule, papulopustule, or comedo (black head). Secondary lesions are crusts, excoriations, and scars. The papules vary from red to blue-red in color and are conical or rounded. The individual lesions may be superficial papules or deep nodules (indurated acne). Occasionally the lesions form subcutaneous burrows filled with thick pus. The lesions vary in size from a few millimeters to 2 or more cm. in diameter. The burrow may be 4 or more cm. in length.

Scars result from spontaneous rupture, self-inflicted trauma (picking), surgical procedures, or healing of the deep-seated burrowing lesion (acne conglobata). Scars may be shallow and broad, deeply pitted, or have an overhanging edge. Patients usually have more than one type of lesion present. The involved areas are oily. Seborrheic dermatitis may be present.

*Subjective symptoms* Subjective symptoms are usually minimal. Itching may be present. The larger and cystic lesions are painful.

The cosmetic defect caused by acne or its sequelae may produce emotional imbalance.

*Etiology* The cause of acne is unknown. It is associated with endocrine imbalance and usually begins about the time of puberty.

The role played by the *demodex folliculorum*, a minute secondary infection with taphylococci is common.

Dietary factors play a role in acne.

*Histopathology* Lymphocytic and plasma cell infiltration surround a comedo-filled hair follicle. Abscesses may form due to secondary infection. Giant cells are occasionally seen.

*Diagnostic aids* Clinical acumen is usually suffi-

papules or papulopustules. As the acute inflammatory phase subsides, the lesions develop into keloids which may remain discrete or become confluent.

*Subjective symptoms* Nighttime severe itching.

*Lesion type* Keloid formation in acne lesions.

*Histopathology* Dense fibrous tissue (keloid). A chronic granuloma which contains many plasma cells.

*Differential Diagnosis*

*Relapsing pruritic disease* None usually.

*Differential diagnosis* The condition is characteristic.

*Therapy* Roentgen ray may be of some value. Liquid nitrogen and carbon dioxide wash are occasionally of benefit. Treatment is generally unsatisfactory.

## Chapter 16

# PAPULAR ERUPTIONS

### Acanthosis Nigricans

*Synonym* Keratosis nigricans

*Sites of predilection* Axillae inframammary areas genitoocrural region neck

*Objective symptoms* Reddish brown to black hyperpigmentation is usually the first sign. The areas become thickened and later develop discrete grouped or confluent soft papillomatous projections and vegetating masses. Loss of scalp hair and eyebrows may be associated. Frequently the palms and soles are hyperkeratotic.

*Subjective symptoms* In the adult type with associated visceral malignancy, the patient may suffer loss of weight and anorexia.

*Etiology* Acanthosis nigricans is a symptom of chromaffin tissue (adrenal medulla) insufficiency.

*Histopathology* Hyperkeratosis, acanthosis and atrophy of the epidermis over the dermal pegs are the chief features. Little or no inflammatory reaction is seen. Hyperpigmentation is present.

*Diagnostic aids* History and physical examination biopsy laboratory studies include basal metabolism roentgen studies, 17 ketosteroids, and electrolyte studies.

*Relation to systemic disease* Of the adult cases, 92 per cent are associated with abdominal visceral cancer. Juvenile acanthosis nigricans is usually associated with obesity and pituitary dysfunction.

*Differential diagnosis* Fox Fordyce disease, keratosis follicularis, eczematous eruptions of the axillae.

*Therapy* There is no effective specific therapy for the cutaneous lesions. In the adult type operable malignancies should be removed. In the

juvenile type reduction of weight produces involution of lesions.

### Acne Halogen

*Synonym* Bromide acne iodide acne

*Sites of predilection* Face chest and back. Lesions often involve the extremities and lower portion of the trunk (acne vulgaris is usually limited to the upper back and chest).

*Objective symptoms* Follicular papules, papulopustules and pustules develop. The condition resembles acne vulgaris. The lesions may be brownish and coalesce to form groups with a serpiginous border. The inflammatory element may be pronounced.

*Subjective symptoms* Usually none except the psychic effect of the cosmetic defect.

*Etiology* Ingestion of bromides or iodides (frequently contained in commercial headache remedies).

*Histopathology* Leukocytes, plasma cells and foreign body giant cells form an infiltrate in and about the pilosebaceous apparatus.

*Diagnostic aids* History and physical examination blood bromide determination.

*Relation to systemic disease* The underlying condition which necessitates bromide ingestion.

*Differential diagnosis* Acne vulgaris rosacea.

*Therapy* Discontinue bromide medication. Administer large doses of sodium chloride daily. Local therapy is of little value.

### Acne Keloid

*Synonym* Dermatitis papillaris capillitis folliculitis cheloidalis.

*Sites of predilection* Back of neck chest and back.

*Objective symptoms* The lesions begin as follicular

**Actinomycosis**

**Synonym.** Lumpy jaw

**Sites of predilection.** Face and neck.

**Objective symptoms.** Deep-seated nodules or subcutaneous masses which develop slowly and become soft and fluctuant over a period of several weeks to months. The overlying tissues slough and the ensuing purulent discharge contains small masses called sulfur granules. Sinus tracts and chronic subcutaneous abscesses form.

**Subjective symptoms.** Local pain.

**Etiology.** *Actinomyces bovis*

**II. Histopathology.** Fungi can be demonstrated by a biopsy taken near the edge of a lesion. They are surrounded by a zone of polymorphonuclear leukocytic infiltration and, in the periphery plasma cells, giant cells, and epithelioid cells.

**Diagnostic aids.** Biopsy demonstration of the fungus in "sulfur granules" usually found in pus or sputum; culture of the organism on *Sa. Howard's* media; skin tests are of no value.

**Relation to systemic disease.** Primary actinomycosis of the skin is rare. Gastrointestinal tract infection is common. Involvement of the lungs is usually caused by extension through tissues or secondary to other visceral infection.

**Differential diagnosis.** *Serofuloderma*; periodontal abscess; syphilis (gumma); malignancies; other deep mycoses.

**Therapy.** There is no specific treatment for actinomycosis. Potassium iodide, stilbamidine, penicillin and sulfonamides have been used with varying degrees of success.

**Adenoma Sebaceum**

**Synonym.** Bourneville disease; steatadenoma; nevus sebaceus.

**Sites of predilection.** Symmetrically distributed over cheek and nose.

**Objective symptoms.** Yellowish to reddish, translucent papules 1 to 4 mm. or larger in diameter. Plaques may occur on the forehead or other areas of the face. Papillomatous growths beneath the nails (Koebner's tumors or subungual fibroma) are common. Telangiectasia may be present. The lesions of the Pringle type are small, pink, soft and fleshy and are frequently



FIG. 31. Adenoma sebaceum

associated with other nevi. Adenoma sebaceum lesions of the Balzar variety are large, pale firm, and not symmetrically distributed.

**Subjective symptoms.** None usually except the psychic trauma of the cosmetic defect.

**Etiology.** Congenital

**Histopathology.** Hyperplasia and hypertrophy of the sebaceous glands, with vascular dilatation.

**Diagnostic aids.** History and physical examination; biopsy.

**Relation to systemic disease.** There are two types of adenoma sebaceum, one of which, the Balzar variety has no known relationship to systemic disease. The Pringle type is frequently associated with tuberous sclerosis, mental deficiency and epilepsy (the triad known as *epiloia*); osteoporosis; cerebral calcification, and bilateral renal tumors.

Symptoms of *epiloia* usually do not become apparent until the child is 5 to 9 years of age.

**Differential diagnosis.** Acne vulgaris; benign cystic epithelioma; nevus.

**Therapy.** Destruction of individual lesions by electrodestruction.

**Adenoma Sebaceum Seile**

**Synonym.** Hypertrophic sebaceous gland; seile sebaceous nevus.

**Sites of predilection.** Face.

**Objective symptoms.** One or more yellowish, flat umbilicated papules, varying from 2 to 3 mm. in diameter. The skin is usually oily and there may be associated folliculitis or rosacea.



FIG. 50. A Acne with numerous comedones. B Proclima faciale. C Cystic acne. D Post-acne scar formation. E Acne vulgaris. F Proclima faciale.

cient. Biopsy is rarely necessary. Cultural studies are indicated if secondary bacterial infection is present.

**Relation to systemic disease.** Acne is influenced by endocrine glands. Excessive steroid secretion increases severity. Constipation, fatigue, diet, and heredity influence the course of the disease.

**Differential diagnosis.** Halogen acne, papular and pustular secondary syphilis, impetigo, contagiosa roseacea, verruca plana, adenoma sebaceum, acutis (tubercloid).

**Therapy.** The treatment of acne may be local, systemic, dietary, or radiation.

Local therapy consists of improved hygiene (washing with soap and warm water 2 or 3 times daily) and the application of a sulfur or sulfur and resorcin lotion or cream to the lesions (Kummerfeld lotion, Resulin lotion, Sulforcin lotion). The patient is instructed not to

pick or squeeze the lesions. Acne surgery other than expression of comedones, is rarely necessary.

Systemic therapy should include elimination of foci of infection, regulation of bowel habits, adequate rest, and administration of vitamins A and C. Hormone therapy should be avoided in the absence of specific indications. Broad spectrum antibiotics, in subtherapeutic doses, may be of value in selected cases as an adjunctive measure.

Dietary restriction should be imposed (see acne instructions).

Fractional x-ray therapy is indicated in selected patients. X-ray therapy should not be used on patients under 18 years of age. Ultra-violet is occasionally of value and may be given at any age if properly supervised.

*Differential diagnosis.* Plantar warts arsenical keratoses.

*Therapy.* None necessary unless the lesion be comes painful. They may be pared with a sharp blade or treated with 10 to 23 per cent salicylic acid plasters. Remove the cause. Properly fitting shoes may relieve callus-likes of the feet.

### Chloracne

*Synonym.* Tar acne paraffin acne

*Sites of predilection.* Arms, legs, face chest and back.

*Objective symptoms.* Follicular papules, papulopustules and comedo-like lesions, resembling acne vulgaris, develop on surfaces which come in contact with oily substances. Comedones occur in patches on the extensor surfaces of the upper extremities and are concentrated about the elbows. The lesions are chronically inflamed. The comedones in this condition are hard, keratinous plugs which are difficult to remove by expression. There may be an associated contact dermatitis of the hands.

*Subjective symptoms.* Moderate to intense itching.

*Etiology.* Industrial handling of tars, greases, paraffin, and oils, with resultant follicular irritation and mechanical plugging of the follicular orifices.

*Histopathology.* Infiltration of leukocytes plasma cells, and foreign body giant cells in and about the pilo-erectile apparatus.

*Diagnostic aids.* History and physical examination.

*Relation to systemic diseases.* None usually.

*Differential diagnosis.* Acne vulgaris.

*Therapy.* Remove from contact with oil. See 5

per cent salicylic acid in 50 per cent alcohol locally.

### Chondrodermatitis Nodularis Chronica Helicis

*Synonym.* Chronic painful nodule of the ear

*Sites of predilection.* Rim of the ear

*Objective symptoms.* Well defined hard round or oval lesion varying in size from 3 to 8 mm. The lesions are usually whitish or yellowish in color with a central crusted depression. Ulcerations may occur. They may be single or multiple and are attached to the underlying cartilage. They occur more frequently in men.

*Subjective symptoms.* Slight discomfort to severe pain, particularly when the ear is in contact with the pillow when patient is at rest.

*Etiology.* Unknown.

*Histopathology.* Edema collagen degeneration and vascular proliferation in the corium with the inflammatory process involving the cartilage. Moderate acanthosis is present.

*Diagnostic aids.* Biopsy.

*Relation to systemic diseases.* None.

*Differential diagnosis.* Epithelioma. Keratoses tophi of gout.

*Therapy.* Excision or destruction of the lesion may be of only temporary value. Recurrences are frequent.

### Callus

*Synonym.* Corn

*Sites of predilection.* Areas of the foot on which greatest pressure is exerted by shoes such as the dorsal surface of the fifth toe.

*Objective symptoms.* One or more small (3 mm to 1 cm) rounded, raised callus-like lesions, which are yellowish-gray in color. The lesions appear to be formed of layers of horny material. The summit is usually rough.

*Subjective symptoms.* Moderate to severe pain.

*Etiology.* Chronic intermittent pressure of shoes.

*Histopathology.* Hyperkeratosis.

*Diagnostic aids.* None usually necessary.

*Relation to systemic diseases.* None.

*Differential diagnosis.* Callus. Keratoses.

*Therapy.* Surgical removal and use of 20 to 40 per cent salicylic acid plasters offer temporary



FIG 52 Chloracne



*Subjective symptoms* None

*Etiology* Unknown

*Histopathology* Large numbers of normal-appearing mature or nearly mature sebaceous glands

*Diagnostic aids* Biopsy

*Relation to systemic disease* None Other senile changes are present

*Differential diagnosis* Epithelioma seborrhoeic keratosis

*Therapy* Excision or destruction by electrode-cathion

### Angiokeratoma

*Synonym* Telangiectatic warts; angioma of the scrotum.

*Sites of predilection* Scrotum; extremities

*Objective symptoms* Few to numerous pin point to split pea sized reddish or purplish warty papules on the extremities (Mibelli type). On the scrotum the lesion appears as purplish papules which may or may not be grossly keratotic (Fordyce type)

*Subjective symptoms* None

*Etiology* Unknown

*Histopathology* Variable chronic infiltrate; vascular dilatation and thickening of the stratum corneum

*Diagnostic aids* History and physical examination; biopsy

*Relation to systemic disease* May be related to chilblains and to hereditary telangiectasia (Osler-Rendu)

*Differential diagnosis* Verruca vulgaris

*Therapy* Destruction of individual lesions by desiccation or cryotherapy

### Blastomycosis

*Synonym* North American blastomycosis; Gilchrist's disease

*Sites of predilection* Face and upper extremities; any area may become involved

*Objective symptoms* The primary cutaneous lesion is a papulopustule which spreads peripherally forming an elevated plaque. The lesions grow slowly and present a verrucous surface which is usually crusted. The border of the lesion is smooth purplish red in color and may present numerous tiny abscesses from which the *Blastomyces dermatitidis*

may be demonstrated. Cutaneous granulomatous lesions may develop along the course of the lymphatics draining the primary affected areas.

*Subjective symptoms* Usually absent but there may be slight pain in areas which are secondarily infected.

*Etiology* *Blastomyces dermatitidis*

*Histopathology* Milium abscesses and a dense infiltrate of leukocytes, epithelioid and plasma cells. Giant cells are present and usually contain the organism. The *Blastomyces dermatitidis* is a round oval or slightly irregular body with a double-contoured capsule. Budding forms are seen but mycelia have not been demonstrated in tissues.

*Diagnostic aids* History and physical examination; biopsy; culture

*Relation to systemic disease* Any organ or tissue in the body may be attacked. The lungs are affected in over 90 per cent of the cases of systemic disease. The kidneys, bone and central nervous system may become involved.

*Differential diagnosis* Tuberculosis; epithelioma; nodular syphiloderma

*Therapy* Stillamidine and 2-hydroxystilbamidine are effective. Amphotericin and Nystatin are also effective.

### Callus

*Synonym* Callus; callositas.

*Sites of predilection* Palmar and plantar surfaces

*Objective symptoms* Calluses occur on areas of the body which are subject to chronic intermittent trauma. They may develop as an industrial dermatosis among tool handlers, musicians, or shoemakers. They are slightly raised whitish or grayish white in color with a smooth hyperkeratotic surface. The edges merge gradually into the normal skin.

*Subjective symptoms* None to considerable discomfort

*Etiology* Chronic intermittent trauma

*Histopathology* Thickening of the stratum corneum and stratum granulosum.

*Diagnostic aids* Clinical appearance is characteristic

*Relation to systemic disease* None

must be removed in order to prevent recurrence of the lesion.

### Cyst Traumatic Epithelial

*Synonym.* Epidermoid cyst.

*Sites of predilection.* The palmar surfaces and scars.

*Objective symptoms.* Usually solitary and less than 1 cm. in diameter these subcutaneous noninflamed lesions occur in the palms of mechanics and other individuals whose hands are subjected to trauma. If ruptured, they exude a thick fluid. They may become secondarily infected.

*Subjective symptoms.* None unless infection is present.

*Etiology.* Unknown.

*Histopathology.* Noninflammatory cystic lesion with a wall composed of stratified epithelium with a thick, inner horny layer. No sebaceous gland elements are present since the lesions usually appear on the palms.

*Diagnostic aid.* Biopsy to differentiate from sebaceous cysts.

*Relation to systemic disease.* None.

*Differential diagnosis.* Sebaceous cyst, fibroma.

*Therapy.* Excision or desiccation.

### Dermatosis Papulosa Nigra

*Synonym.* None.

*Sites of predilection.* Face, chiefly about the nose and cheeks.

*Objective symptoms.* Few to numerous discrete brown to black, flat or slightly rounded lesions measuring from 1 to 5 mm. in diameter. These benign lesions occur only in Negroes.

*Subjective symptoms.* None.

*Etiology.* Unknown.

*Histopathology.* Identical with the changes observed in seborrheic keratosis.

*Diagnostic aid.* Biopsy.

*Relation to systemic disease.* None.

*Differential diagnosis.* Adenoma sebaceum, verruca plana juvenilis, moles, trichoepithelioma.

*Therapy.* None indicated or necessary. Surgical removal may be followed by keloid formation.

### Eczema Papular

*Synonym.* Papular eczema; neurodermatitis; atopic dermatitis.

*Sites of predilection.* Face, neck, trunk, and flexural aspects of the extremities.

*Objective symptoms.* Usually confluent patches of small erythematous papules with discrete lesions noted in the periphery of the ill-defined areas. The individual lesions may develop as follicular papules or be milium papules not associated with hair follicles. The eruption may be localized or generalized. This type of eczema is usually associated with other forms of the condition. Excoriations are a prominent feature and secondary pyogenic infection frequently occurs.

*Subjective symptoms.* Itching is moderate to severe.

*Etiology.* See eczema in the chapter on Macular Eruptions.

*Histopathology.* See eczema in the chapter on Macular Eruptions.

*Diagnostic aid.* See eczema in the chapter on Macular Eruptions.

*Relation to systemic disease.* See eczema in the chapter on Macular Eruptions.

*Differential diagnosis.* Papular urticaria, folliculitis, lichen planus.

*Therapy.* See eczema in the chapter on Macular Eruptions.



FIG. 32a. Squamous cell epithelioma. Diagnosis established by biopsy.

relief. Properly fitting shoes may eliminate the lesions.

### Cyst Benign Synovial

*Synonym* Interarticular cyst

*Sites of predilection* Interphalangeal joints

*Objective symptoms* One or more rounded papular cystic lesions usually less than 1 cm in diameter. The summit is frequently umbilicated. The lesions may be smooth and shiny or may have a roughened surface varying from flesh colored to purplish. When the lesion is incised a thick viscid fluid exudes. Synovial cysts are more common in women.

*Subjective symptoms* Pain

*History* Unknown

*Histopathology* Corium and epidermis are atrophic. A degenerative cyst whose wall is composed of flat connective tissue cells.

*Diagnostic aid* None is usually necessary although the lesions frequently resemble verrucae. Puncture may help differentiate the cyst from a solid lesion.

*Relation to systemic disease* None usually.

*Differential diagnosis* Verrucae vulgaris.

*Therapy* The lesions are easily emptied by incision and expression of the fluid; however when this incision heals the cyst rapidly refills. Surgical excision of the lesion is difficult because of the connection with the synovial membrane. Conventional x-ray therapy (80 to 100 KV) 400 to 600 r in a single dose filtered by 0.5 mm or 1 mm of aluminum has been reported successful. Cryotherapy with a carbon dioxide snow pencil or liquid nitrogen has also been reported as successful treatment. Local injection of hydrocortisone or prednisolone into the lesion is a valuable therapeutic measure.

### Cysts Dermoid

*Synonym* None

*Sites of predilection* Head and neck generally overlying suture lines of the bones or the branchial arches.

*Objective symptoms* Dermoid cysts are noninflammatory subcutaneous tumors which are not attached to epidermal structures. They vary in

size from a few millimeters to several centimeters in diameter.

*Subjective symptoms* Usually none.

*Etiology* Dermoid cysts are congenital in origin and may appear at any time in life.

*Histopathology* The lining of the cyst is stratified squamous epithelium and all dermal elements may be present including sebaceous glands, hair sweat glands, and teeth. Sometimes the lesions are teratomas.

*Diagnostic aids* Biopsy.

*Relation to systemic disease* There may be other evidences of faulty development. Dermoid cysts may be found in internal organs, chiefly the ovaries and testes.

*Differential diagnosis* Other tumors of the skin.

*Therapy* Surgical excision is necessary since squamous cell carcinomatous degeneration frequently occurs.

### Cyst Sebaceous

*Synonym* Steatoma wen

*Sites of predilection* Face scalp back, and scrotum.

*Objective symptoms* These slowly growing benign cystic lesions are attached to the skin but not to the subcutaneous tissues. They are usually firm in consistency but may become soft due to secondary infection. They are filled with a caseous foul-smelling material. The wall of the cyst is a fibrous capsule. The lesions may be solitary or multiple and vary from 1 cm to 10 cm in diameter. The condition may be associated with acne.

*Subjective symptoms* Usually none unless the lesions become secondarily infected.

*History* Plug formation in sebaceous duct orifices and hyperactivity of the gland.

*Histopathology* The wall is composed of nonkeratinized epithelial cells. The peripheral layer shows palisading. The cysts are filled with amorphous material.

*Diagnostic aids* Biopsy.

*Relation to systemic disease* None.

*Differential diagnosis* Lipoma fibroma other tumors.

*Therapy* Surgical excision. The entire capsule

**Histopathology** Differentiated basal cell carcinomas show epithelial structures such as sebaceous glands, apocrine gland, hair follicles, etc. The undifferentiated type is characterized by large oval or elongated, deeply staining, basophilic nuclei usually surrounded by a small ill defined zone of cytoplasm. Many basal cell cancers are a mixed type and show both differentiated and undifferentiated types of structures in the same tumor.

**Diagnostic aids.** Biopsy

**Relation to systemic disease** None

**Differential diagnosis.** Other types of epithelioma, senile and seborrheic keratosis, verrucae, benign nevi, leukoplakia.

**Therapy** Basal cell epitheliomas may be treated by surgical excision, x-radiation (conventional or Grenz), radium therapy or a combination of surgery and radiation.

A method which has given excellent results consist of excision of the lesion, with electro-destruction of the base. This is followed by a total of 3000 r of conventional x-ray treatment given in divided doses, unfiltered.

These lesions are relatively benign. Because of the mental distress frequently suffered when the patient is told the diagnosis is cancer, a careful explanation of the nature of the lesion and the good prognosis attendant on proper therapy is mandatory.

### Epithelioma, Multiple Benign Cystic

**Synonym** Multiple benign cystic epithelioma, multiple trichoepithelioma.

**Sites of predilection.** Face, scalp, neck, and chest.

**Objective symptoms.** Few to numerous, rounded translucent vesicle papules which are pinkish to bluish-white in color. These tumors frequently have a slight central depression. The lesions vary in size from 2 to 5 mm. The larger lesion may be telangiectatic.

**Subjective symptoms** None

**Etiology** Unknown. There may be a familial tendency.



F. 54 Epithelioma, multiple benign cystic

**Histopathology** Keratin cysts, intermingled with solid strands or nest of basal cell.

**Diagnostic aids** Biopsy

**Relation to systemic disease** None

**Differential diagnosis** Epithelioma of other types, adenoma, sebaceum, molluscum contagiosum.

**Therapy** Excision, curettage or desiccation.



F. 54a Epithelioma, multiple benign cystic

### Epithelioma Basal Cell

*Synonym* Basal cell cancer rodent ulcer basal cell carcinoma

*Sites of predilection* Usually the upper portion of the face although basal cell epitheliomas may appear on any part of the body

*Objective symptoms* These slowly growing nodule tumors first appear as small keratosis or shiny solid whitish or pinkish papules with telangiectasia. The lesions may vary from 2 mm to several centimeters in diameter. These tumors may remain as intact papules which do not increase in size or after varying periods of several weeks to several months or years, the lesions ulcerate and spread peripherally. The

borders are rolled pearly and telangiectatic. If the central crust is removed by "picking" or other trauma bleeding occurs. Eventually a crust fails to form and a chronic indolent ulcer results.

*Subjective symptoms* Usually none. The area may become tender if ulceration develops. There may be emotional trauma because of the cosmetic defect. Occasionally fear of cancer may prevent the patient's seeking treatment or even produce a psychosis.

*Etiology* Unknown. Prolonged and repeated exposure to the sun, trauma or chronic irritation from other sources are factors associated with the production of basal cell epitheliomas.



FIG. 53 Epithelioma basal cell

**Histopathology** Differentiated basal cell carcinomas show epithelial structures such as sebaceous glands, apocrine glands, hair follicles, etc. The undifferentiated type is characterized by large oval or elongated deeply staining, basophilic nuclei, usually surrounded by a small, ill-defined zone of cytoplasm. Many basal cell cancers are a mixed type and show both differentiated and undifferentiated types of structures in the same tumor.

**Diagnostic aids.** Biopsy

**Relation to systemic disease.** None

**Differential diagnosis.** Other types of epitheliomas, senile and seborrheic keratosis, verrucae benigni, nevi leukoplakia.

**Therapy.** Basal cell epitheliomas may be treated by surgical excision, x-radiation (conventional or Grenz), radium therapy, or a combination of surgery and radiation.

A method which has given excellent results consists of excision of the lesion, with electrodecaction of the base. This is followed by a total of 3000 r of conventional x-ray treatment given in divided doses, unfiltered.

These lesions are relatively benign. Because of the mental distress frequently suffered when the patient is told the diagnosis is cancer, a careful explanation of the nature of the lesion and the good prognosis attendant on proper therapy is mandatory.

### Epithelioma, Multiple Benign Cystic

**Synonym.** Multiple benign cystic epithelioma, multiple trichoepithelioma.

**Sites of predilection.** Face, scalp, neck, and chest.

**Objective symptoms.** Few to numerous rounded translucent vesicle papules which are pinkish to bluish-white in color. These tumors frequently have a slight central depression. The lesions vary in size from 2 to 5 mm. The larger lesions may be telangiectatic.

**Subjective symptoms.** None.

**Etiology.** Unknown. There may be a familial tendency.



F. 84 Epithelioma, multiple benign cystic

**Histopathology.** Keratin cysts intermingled with solid strand or nests of basal cells.

**Diagnostic aids.** Biopsy

**Relation to systemic disease.** None

**Differential diagnosis.** Epithelioma of other types, adenoma, sebaceum, molluscum contagiosum.

**Therapy.** Excision, curettage or decaction.



F. 84a Epithelioma, multiple benign cystic

### Epithelioma Squamous Cell

**Synonym** Rickle cell cancer malignant acanthoma epidermoid carcinoma

**Sites of predilection** Exposed surfaces of the body Occur frequently on the lower part of the face lower lip or the dorsal surfaces of the hands

**Objective symptoms** These malignant lesions may begin as small hard whitish or yellowish nodules or may arise from leukoplakic lesions senile keratosis or chronic ulcers The base is firm and usually telangiectatic The lesions grow rapidly in size compared to the growth of a basal cell epithelioma Ulceration may occur and offers a rough index of the degree of malignancy the more highly differentiated tumors

usually having an intact surface. The ulcers usually have a wide rolled pearly border although rapidly growing lesions may be fungoid in appearance The lesions vary in size from 1 to 5 cm. or more in diameter

Squamous cell cancers of the lower lip may resemble small papillomas with intact surfaces (relatively benign) or begin as fissures which rapidly break down and form early metastases.

**Subjective symptoms** Little or no pain is present unless the lesion is large or has metastasized.

**Etiology** Unknown

**Histopathology** The histologic picture varies with the grade of malignancy In low grade malignancies the degree of anaplasia is low and the

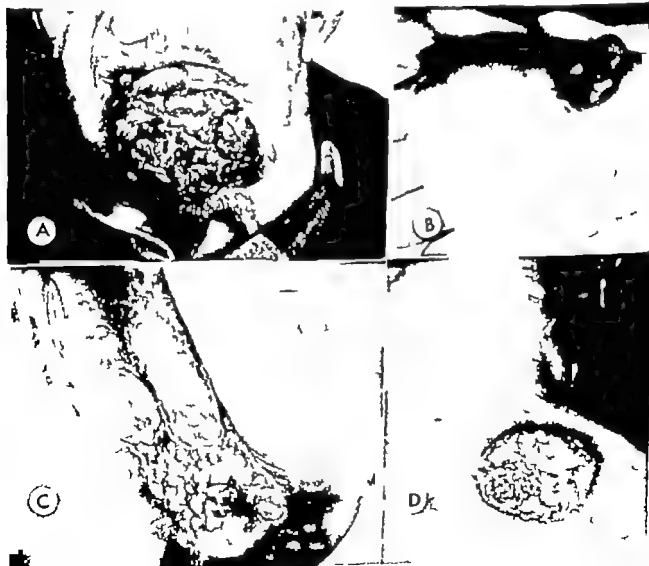


Fig 56 A and B Epithelioma squamous cell C Complicating granuloma guile D Lesion 23 year-old girl

cancer cell has little ability to penetrate the corium. As the cancer becomes more malignant, the degree of anaplasia increases (amount of mitotic abnormal rete cell and dis-orderly appearance). In low grade malignancy pearl formation predominates, but in the very malignant form there is complete lack of adhe-sion and an increase in the ability of cells to penetrate the corium.

*Diagnostic aids.* Biopsy findings are characteristic.

*Relation to systemic disease.* None unless the lesion has metastasized.

*Differential diagnosis.* verrucae pyogenic granu-loma gumma tuberculous cutis lupus vul-gar. other types of epitheliomas chronic granu-loma.

*Therapy.* Wide excision of the lesion followed by radiation therapy. These lesions are radio-resis-tive but require a somewhat higher dose of r-ray than do basal cell epitheliomas.

### Erythema Multiforme

*Synonym.* None

*Sites of predilection.* Flexor surfaces of the extre-mities palmar and plantar surfaces lips.

*Objective symptoms.* Usually numerous, pink to violaceous anesthetic papules, varying in size from a few millimeters to one or more cm. in diameter. The lesions vary in shape from nummular to gyrate. They are well defined and may form annular or iris (target) lesions. The vermilion border of the lips are usually crusted and edematous. Macules and vesicles may also be pre-sent in the same patient. The patient may be seriously ill.

*Subjective symptoms.* Generalized malaise sore throat arthralgias, and a burning sensation in the eyes may be present.

*Etiology.* Unknown. Erythema multiforme is a cutaneous reaction to chronic foci of infection, drug ingestion or infection, or immunization. There is a seasonal type (Hebra).

*II Pathology.* See erythema multiforme in the chapter on Macular Eruptions.

*Diagnostic aids.* History and physical examination hemogram.

*Relation to systemic disease.* Erythema multiforme is systemic disease the diagnosis usually being

made by observation of the cutaneous symp-toms. The patient may be seriously ill.

*Differential diagnosis.* Chronic urticaria secondary syphilis drug reaction.

*Therapy.* See erythema multiforme in the chapter on Macular Eruptions.

### Erythema Nodosum

*Synonym.* Dermatitis contrariaformis.

*Sites of predilection.* Extensor surfaces of the legs and thighs although occasionally lesions ap-pear on the upper extremities.

*Objective symptoms.* The lesions may be few to numerous, varying in size usually from 1 to 3 cm. in diameter. They are pink to bluish-red in color and appear in crops. They are usually firm. Lesions may become soft but do not ulcerate. Hyperpigmentation may follow involution of the lesions. Recurrences are frequent.

*Subjective symptoms.* The lesions are tender and painful. There may be generalized malaise ar-thralgia or gastrointestinal symptoms.

*Etiology.* Unknown. Erythema nodosum has been regarded as a variant of erythema multiforme. It may be associated with chronic foci of in-fection rheumatic fever tuberculosis syphilis chronic granuloma, and drug sensitivity.

*Histopathology.* Vascular dilatation edema of the cutis, perivascular round cell infiltration and thrombosis of small blood vessels.

*Diagnostic aids.* History and physical examination biopsy hemogram.

*Relation to systemic disease.* Erythema nodosum may be associated with chronic tonsillitis gas-trointestinal disturbances, genitourinary dis-turbances rheumatic fever tuberculosis etc.

*Differential diagnosis.* Erythema induratum gumma chronic non-suppurative panniculitis periorchitis.

*Therapy.* Eliminate foci of infection. Sodium sali-cylate enteric-coated, 0.5 gm. 3 or 4 times daily may help. Systemic steroid therapy will cause the lesions to disappear but when the drug is discontinued, the lesions usually recur. Broad spectrum antibiotic therapy including the tetracyclines, erythromycin, and trimethy-loxandromycin, 250 mg. 4 times daily frequently helps to control the condition.





FIG 55 Fibroma coli

Cure is achieved only when the cause is determined and eliminated

### Fibroma Colli

*Synonym* Skin tags; cutaneous tags of the neck

*Sites of predilection* Neck and upper chest wall in middle-aged and elderly people

*Objective symptoms* Few to numerous small (1 to 3 mm) flesh-colored or dark brown papules or filiform tags. The lesions are discrete and may become secondarily infected.

*Subjective symptoms* None

*Etiology* Unknown; probably associated with senescent changes in the skin

*Histopathology* Slight acanthosis; thinning of the horny layer and a spongy areolar arrangement of the fibers of the corium. There is loss of elastic tissue.

*Diagnostic aids* Biopsy

*Relation to systemic disease* None has been established

*Differential diagnosis* Nevus; seborrheic keratosis; verrucae

*Therapy* Excision; desiccation or application of liquid nitrogen

### Fibroma Durum

*Synonym* Dermatofibroma lenticulare; histiocytoma; fibroma simplex; sclerosing hemangioma

*Sites of predilection* Distal portions of the extremities, although they may appear anywhere

*Objective symptoms* The lesions, which occur most frequently in women, are usually single and appear as firm, dull reddish to purplish nodules 3 mm to 1 cm in diameter. These benign lesions are hard, fixed in the skin, sharply defined and slowly growing. The nodules are attached to the skin but not to the underlying subcutaneous tissue.

*Subjective symptoms* Usually none

*Etiology* Unknown

*Histopathology* The circumscribed tumor is composed of mature fibrous tissue. The nuclei are small.

*Diagnostic aid* Biopsy

*Relation to systemic disease* None has been established

*Differential diagnosis* Keloid; nevus; wart

*Therapy* Excision

### Glomus Tumor

*Synonym* None

*Sites of predilection* Extremities, usually under nails.

*Objective symptoms* The lesions are single, soft, small, bluish or bluish-red tumors, 2 mm to 1 cm in diameter. The lesions never become very large. Occasionally multiple lesions develop.

*Subjective symptoms* Moderate to intense pain

*Etiology* Unknown.

*Histopathology* The lesion is composed of an arterial element (Sicquet-Hoyer anast.) and a venous element. The canal is lined by endothelium surrounded by a thick mantle of glomerular cells which resemble epithelioid cells, and have an eosinophilic cytoplasm and large oval nuclei. A rich network of nonmyelinated nerve fibrils can be demonstrated by special stain.

*Diagnostic aid* Biopsy

*Relation to systemic disease* None usually but may be associated with hypoplasia and osteoporosis of the bones of the forearm.

*Differential diagnosis* Neuroma angio-arcoma erythema

*Therapy* Surgical excision

### Gout

*Synonym* None

*Site of predilection* Rim of the external ear, fingers, and toes

*Objective symptoms* Deposits of uric acid and urates under the skin are known as *tophi*. These papular lesions have smooth surfaces and are usually less than 1 cm. in size but may grow to 1 or more cm. in diameter. They are whitish or cream-colored. When ruptured the contents are gritty and whitish (uric acid and urates).

*Subjective symptoms* Pain in the lesions; a well generalized symptom.

*Etiology* Excessive uric acid metabolism

*Histopathology* A foreign body reaction with a variable number of foreign body giant cells and densely packed, needle-shaped crystals of sodium urate.

*Diagnostic aid* Uric acid hemoconcentration, urinalysis, history and physical examination, biopsy of lesions.

*Relation to systemic disease* Gout is a systemic disease.

*Differential diagnosis* Bursal cell epithelioma, chronic painful nodule of the ear.

*Therapy* Diet low in purine, colchicine, systemic steroid therapy in short courses. Benemid and Butazolidin are valuable adjuncts.

### Granuloma Annulare

*Synonym* Ringed eruption, *lieben annularis*.

*Sites of predilection* Usually the distal portions of the extremities, although any area may be involved.

*Objective symptoms* The primary lesion is a whitish, bluish or pinkish, deep-seated papule or ring of closely grouped papules which usually form an annular or serpiginous lesion. The lesions are firm and nonhealy with elevated borders.

The lesions do not tend to involute spontaneously and in long-standing lesions, the central portion may be atrophic. Scarred plaques of lesions may form.

The condition commonly occurs in young children but lesions may appear at any age.

*Subjective symptoms* None.

*Etiology* Unknown.

*Histopathology* Moderately well-defined area of altered collagen (necrosis) surrounded by epithelioid cell which may form palisading. Many small mononuclear cells form the perivascular infiltrate and also surround the epithelioid cell.

*Diagnostic aid* Biopsy

*Relation to systemic disease* None has been established.

*Differential diagnosis* Epithelioma, *lieben planus*, xanthoma tuberosum.

*Therapy* Nonspecific. Surgical excision of a portion of the lesion for biopsy may result in complete involution. Roentgen rays are of value. Cryotherapy is of value in some cases.

### Granuloma Fungoides

*Synonym* Mycosis fungoides.

*Site of predilection* Generalized.

*Objective symptoms* Granuloma fungoides is a systemic lymphoma which has three stages: the eczematous or premycotic stage, the infiltrated stage, and the tumor stage.

1. The eczematous or premycotic stage may resemble eczema, parapsoriasis, or plaque psoriasis or eczematoid dermatitis. The lesions are multiform and are not characteristic. This stage may last several years.

2 During the infiltrative stage the lesions become more well defined and elevated with circinate or gyrate lesions which form plaques. These lesions occasionally ulcerate.

3 The period of tumor formation gradually follows within several months after the infiltrative stage. Tumors occasionally arise from normal skin but more frequently from previously involved areas. No area of the body is exempted. Tumors may involute spontaneously or may ulcerate. When the face is involved a leonine expression similar to that seen in lepromatous leprosy may be noted.

The prognosis is poor.

**Subjective symptoms.** During the early stages, itching is a prominent feature.

**Etiology.** Unknown.

**Histopathology.** In the eczematous phase the changes are not characteristic. In the infiltrative and tumor phases there is a polymorphous infiltrate with invasion of the epidermis. Ipsi dermal abscesses (Pautrier) develop.

**Diagnostic aids.** Biopsy: history and physical examination.

**Relation to systemic disease.** Granuloma fungoides is a systemic lymphoma with fatal termination although the patient may live for many years after the diagnosis is made.

**Differential diagnosis.** Other lymphomas, late cutaneous syphilis, leprosy.

**Therapy.** Supportive measures. Roentgen rays, Creon rays and cathode rays cause temporary involution of the cutaneous lesions. Nitrogen mustard and triethylene melamine may be of benefit in producing partial or temporary remission of symptoms. Systemic steroid therapy may be of value.

### Granuloma Progenic

**Synonym.** Granuloma pyogenicum, botryomyces hominis, telangiectatic granuloma.

**Sites of predilection.** Usually the face or extremities. Any area may be involved.

**Objective symptoms.** These papular lesions are single, small, pedunculated or sessile, vascular granulomas occurring at the sites of injuries. They frequently complicate an ingrown toenail or a dental sinus tract. The lesions vary in



FIG 5. Granuloma pyogenicum.

size from 2 mm. to 1 cm. in diameter and are bluish red to black in color. They may be covered with a thin blood or serous crust and tend to bleed profusely on slight trauma.

**Subjective symptoms.** The lesions are tender but not usually painful.

**Etiology.** Unknown. It is thought that pyogenic bacteria or a virus may be responsible.

**Histopathology.** The tumor is composed of numerous, newly formed and dilated capillaries with a variable amount of endothelial proliferation. Inflammatory elements are present.

**Diagnostic aids.** Biopsy.

**Relation to systemic disease.** None has been established.

**Differential diagnosis.** Verrucae, malignant melanoma, nevus, foreign body granuloma.

**Therapy.** Excision or destruction of the lesion by electrodecaecation. Conventional roentgen therapy may be of benefit.

### Hemangioma

**Synonym.** Nevus vasculosus, vascular nevus, strawberry nevus, birthmark.

**Sites of predilection.** Face, head, neck, trunk, or extremities.

**Objective symptoms.** The lesions of simple hemangiomas are present at birth or begin shortly thereafter. They are round or irregular, slightly to moderately raised, bright reddish to purplish papules which vary in size from 2 mm. to several centimeters in diameter. The lesions may be superficial or extend into the deeper tissues. They may pulsate. They are usually single but



F 84 Hemangiomas on scalp and exterior surface of leg

may be multiple. Ulceration is followed by formation of whitish scar. Simple hemangiomas tend to involute spontaneously.

The cavernous type, which is connected to the deep venous channels, is a soft doughy tumor which has smooth, light to dark blue surface and measures 1 to 3 cm. Simple hemangioma may be present on the surface of these deeper lesions.

**Subject symptoms.** None usually, although pain may occur with ulceration.

**Etiology.** Congenital.

**Histopathology.** There is dilatation of pre-existing vessels and proliferation of new vessels. There is usually some connective tissue proliferation.

**Diagnostic aids.** History and physical examination.

**Relation to systemic disease.** None usually. Exten-

sive lesions may be associated with Sturge-Weber syndrome.

**Differential diagnosis.** Pyrogenic granuloma.

**Therapy.** Superficial lesions respond well to carbon dioxide snow applied with pressure. Sclerosing solutions may be injected into the deeper lesions. Radium and x ray (conventional or Grenz) are useful in experienced hands. Surgical excision of cavernous lesions may be necessary. Many simple hemangiomas involute spontaneously.

### Horn Cutaneous

**Synonym.** Cornu cutaneum.

**Sites of predilection.** Face and hand. Other areas may be involved.

**Objective symptoms.** Usually single, these lesions are composed of horny material, projecting a few millimeters to several centimeters above the skin. The noninflamed base may have a rolled edge and range from a few millimeters to 1.5 cm in diameter. The lesions vary from flesh-color to dark brown or black, and may be smooth, curved or twisted. They may be of such size as to suggest an animal horn, although they are not connected to underlying bony structures. The bases usually undergo malignant degeneration to squamous cell carcinomas.

These lesions are usually associated with other senile changes in the skin, such as senile



F 85 Cornu cutaneum

keratosis, and are seen frequently in 'farmer sailor skin'

*Subjective symptoms* Usually none except the cosmetic defect

*Etiology* Unknown

*Histopathology* Hyperkeratosis with papillomatous changes of the rete. In the rete the cells are disorderly and show early signs of dyskeratosis. Low-grade squamous cell epithelioma may be present

*Diagnostic aids* Biopsy

*Relation to systemic disease* None usually

*Differential diagnosis* Verrucae

*Therapy* Excision or electrodecoagulation

### Ichthyosis Hyatrix

*Synonym* Nevus unius lateris

*Sites of predilection* Trunk and extremities

*Objective symptoms* This is a peculiar type of papular nevus which frequently assumes a linear arrangement and may involve large areas of the body. The lesions are groups of thick pointed or spine-like projections. The color varies from dark gray to brown. The condition is noninflammatory. Other congenital ectodermal defects such as brittle nails and dry, lustreless hair may be present

*Subjective symptoms* None

*Etiology* Congenital

*Histopathology* A variable amount of acanthosis and hyperkeratosis

*Diagnostic aid* Biopsy

*Relation to systemic disease* None. Other congenital ectodermal defects may be present

*Differential diagnosis* Nevus unius lateris, ichthyosis.

*Therapy* In extensive lesions treatment is of little avail. Smaller lesions may be surgically excised.

### Keloid

*Synonym* Cheloid.

*Sites of predilection* Any area of the body

*Objective symptoms* Keloids are hard, variably sized (1 to 10 cm.) fibrous growths which develop in connective tissue at the site of trauma or in a scar. The lesions, which occur most frequently in Negroes, develop out of all proportion to the original injury inflicted. The lesions are whitish orange or reddish. They usually have smooth flat surfaces but may be pedunculated. Ulceration rarely occurs.

*Subjective symptoms* Usually none although the lesions may itch or be painful

*Etiology* Unknown. The tendency toward keloid formation is probably inherited. It is an individual tissue reaction to trauma.

*Histopathology* Large homogeneous, connective tissue fibers, interspersed with connective tissue cells with small intensely staining nuclei. The epidermis is atrophic.

*Diagnostic aids* Biopsy, history and physical examination

*Relation to systemic disease* None has been established



FIG. 60. Keloids following slight scratch by a bar pin and following a knife wound.

*Differential diagnosis.* Epithelioma xanthoma gumma

*Therapy* Roentgen rays are frequently effective in the treatment of keloids which are less than 6 months old. Excision of the lesion is frequently followed by regrowth. If the lesion is excised the procedure should be followed within a few weeks by roentgen therapy

### Keratocanthoma

*Synonym* Self-healing epithelioma molluscum sebaceum

*Sites of predilection* Face and hands

*Object symptoms* Usually a single rapidly growing, hemispherical flesh-colored firm papule. There is a central depression filled with a verrucous crust. The surface may be telangiectatic but the base is not inflammatory. The lesions vary in size from 2 mm. to 1 or more cm. in diameter. Many of these lesions tend to undergo spontaneous involution.

*Subject symptoms.* Usually none

*Etiology* Unknown.

*Histopathology* A large central keratotic plug, with some po. keratosis and surrounded by a hyperkeratotic rete which shows a minimum of individual cell keratinization and anaplasia.

Acute or subacute inflammation is present

*Diagnosis* via Biopsy

*Relation to systemic disease.* None

*Differential diagnosis.* Squamous cell epithelioma.

*Therapy* Excision



F 01 keratocanthoma

### Keratosis Folliculari

*Synonym* Darier's disease White's disease

*Sites of predilection* Head, face, trunk, and extremities.

*Objective symptoms.* The lesions begin as tiny flesh-colored or grayish-brown, follicular papules which are hard and confluent and become topped with an oily crust. Removal of the crust reveals a small depression on the top of the papule. The lesions increase in size, become darker in color and coalesce into gray plaques. Small dark brown tumors and papillomatous growths gradually form and the lesions frequently emit an offensive odor. Unilateral linear lesions may occur.

*Subjective symptoms.* None

*Etiology* Unknown. The condition has been associated with vitamin A deficiency.

*Histopathology* Flattening or elongation of the papillary bodies with acanthosis. Lacunae form between the basal and prickle cell layers or in the lower portion of the prickle cell layer. The cells bordering on the lacunae become partially



F 02 keratosis folliculari

keratinized and are called *corps ronds*. Degenerative cells called *grains* are seen in the lacunae.

**Diagnostic aids** Biopsy, history and physical examination.

**Relation to systemic disease** None has been definitely established.

**Differential diagnosis** Acanthosis nigricans, pityriasis rubra pilaris, follicular papular syphilid.

**Therapy** Vitamin A, 100,000 to 200,000 units daily. Lubricating antipruritics such as 0.1 to 0.3 per cent menthol in Shepard's lotion or olive oil may offer symptomatic relief.

### Keratosis Pilaris

**Synonym** Keratosis suprafollicularis.

**Sites of predilection** Extremities and trunk.

**Objective symptoms** There are numerous tiny discrete keratotic follicular papules pinkish to grayish in color, topped by a tiny scale and frequently pierced by a hair. Occasionally a hair may be found curled inside the papule. The areas resemble *cutis asperina* or *goose flesh* and produce a feeling suggestive of the surface of a nutmeg grater. The condition is associated with dry skin and is most pronounced during the cold months of the year.

**Subjective symptoms** Mild itching, especially after bathing in soapy water.

**Etiology** Associated with ichthyosis or vitamin A deficiency.

**Histopathology** Follicular hyperkeratosis with a mild inflammatory reaction in the cutis.

**Diagnostic aids** Biopsy.

**Relation to systemic disease** None has been established.

**Differential diagnosis** Keratosis follicularis, ichthyosis, pityriasis rubra pilaris, lichen nitidus, lichen spinulosus.

**Therapy** Avoid exposure to cold; use 3 to 5 per cent salicylic acid in an oily ointment base. Therapy is palliative and not curative.

### Keratosis Seborrhoea

**Synonym** Senile wart, seborrhoeic wart, acanthotic nevus.

**Sites of predilection** Face, neck, trunk, and upper extremities.



FIG. 63 Seborrheic keratosis.

**Objective symptoms** These benign, slow-growing lesions appear during or after the fourth decade of life as few to numerous, slightly raised, superficial papules which vary from flesh-colored to dark brown or black. They vary in size from 2 mm. to 2 or more cm. in diameter and may be only slightly raised and flat or verrucous in appearance with a heavily piled up, greasy scale. There is usually no inflammatory reaction about the base of the lesion.

**Subjective symptoms** None except for the cosmetic defect.

**Etiology** Unknown. Seborrheic keratoses are epithelial nevi which appear late in life.

**Histopathology** Keratinous cysts, which are not related to hair follicle or sebaceous gland, invaginate the epidermis. There is little or no inflammatory reaction in the cutis but marked melanin production by the basal cells. This is a superficial lesion which primarily involves the epidermis.

**Diagnostic aids** Biopsy.

**Relation to systemic disease** None.

**Differential diagnosis** Verrucae, nevi, senile keratosis, epithelioma.

**Therapy** The lesions are easily removed by light electrodesiccation, liquid nitrogen, or curettage.

### Keratosis Senile

**Synonym** Senile keratoma.

**Sites of predilection** Face, neck, ears, and dorsa of the hands.

**Objective symptoms.** These premalignant lesions appear in elderly people and are frequently associated with other senescent changes, including hyperpigmentation and excessive dryness. The lesions vary in size from 2 mm. to 1 or more cm. in diameter and are characterized by an adherent dry scale removal of which causes bleeding. The lesions may develop superficial ulcerations.

**Subjective symptoms.** None.

**Etiology.** Unknown.

**Histopathology.** The histopathologic picture varies from benign acanthosis and hyperkeratosis to epithelioma in situ.

**Diagnostic aid.** Biopsy.

**Relation to systemic disease.** None.

**Differential diagnosis.** Seborrheic keratosis, epithelioma.

**Therapy.** Surgical removal or destruction by electrodestruction. Roentgen therapy should be used with caution because of the similarity of the histopathologic changes of these lesions to the changes seen in roentgen dermatitis.

#### Larva Migrans

**Synonym.** Creeping eruption, myiasis larvacea.

**Site of predilection.** Palms, soles, buttocks, genitalia, or other areas.

**Objective symptoms.** This condition first appears as a small papule at the site of infestation. A thin, red, tortuous line extends from the papule, marking the line of migration of the larva in its burrow. The larva may remain quiescent for varying periods up to several weeks, although the usual rate of migration is 2 to 3 cm. daily. Secondary infection is not uncommon.



F 81 Larva migrans

**Subjective symptoms.** Itching is moderate to intense.

**Etiology.** Larvae of the feline and canine hook worm *Ancylostoma braziliense* enter the skin from soil contaminated by animal excreta. Larvae of the *Gastrophilus* have also been reported as causative organisms.

The condition is common in the Southern United States but does not occur in the Middle and North Atlantic states except in persons who have visited the South.

**Histopathology.** It is difficult to recover the larvae in a biopsy specimen. Changes in the burrow wall are not characteristic.

**Diagnostic aid.** The clinical picture is characteristic.

**Relation to systemic disease.** Eosinophilia may be present in long-standing cases. Systemic disease does not follow cutaneous infection.

**Differential diagnosis.** The condition is characteristic.

**Therapy.** The actively spreading edge of the burrow and surrounding area about 3 cm. in diameter is frozen with liquid nitrogen, ethyl chloride, solid carbon dioxide or one of the Freon sprays.

#### Leprosy (Lepromatous Type)

**Synonym.** Hansen's disease.

**Sites of predilection.** Face, trunk and extremities.

**Objective symptoms.** Lepromatous leprosy may occur independent of or simultaneously with tuberculous leprosy. The lesions may at first be ill defined light yellowish-brown infiltrations. These gradually become more well defined, darker in color and of firm consistency. They may be discrete or confluent. The facial features may be deformed by numerous nodules which give rise to the "leonine faces." Nodules may involute spontaneously or may form plaques and ulcerate.

For more details see leprosy in the chapter on Vascular Eruptions.

**Subjective symptoms.** See chapter on Macular eruptions.

**Etiology.** *Mycobacterium leprae*.

**Histopathology.** See leprosy in the chapter on Vascular Eruptions.



*Diagnostic aids* Biopsy, scraping, lepromin test  
*Relation to systemic disease* Leprosy is a systemic disease  
*Differential diagnosis* Sarcoid, late cutaneous syphilis, cutaneous tuberculosis  
*Therapy* See leprosy in the chapter on Macular Eruptions

### Lichen Nitidus

*Synonym* None  
*Sites of predilection* Flexor aspects of the wrists and forearms, lower abdomen, the inner surfaces of the thighs and the penis  
*Objective symptoms* The lesions are small, flat topped, flesh-colored or pinkish, discrete round or angular papules. Linear groups may occur.  
 The condition is chronic and subject to spontaneous remissions and exacerbations.

*Subjective symptoms* None

*Etiology* Unknown

*Histopathology* Resembles lichen planus. Sharply defined infiltrate of lymphocytes, epithelioid cells and giant cells, limited to the papillary layer of the cutis.

*Diagnostic aids* Biopsy

*Relation to systemic disease* None

*Differential diagnosis* Flat warts, lichen planus

*Therapy* No method of treatment is effective

### Lichen Planus

*Synonym* Lichen ruber planus.

*Sites of predilection* Flexor surfaces of the upper extremities, trunk, buccal mucosa and male genitalia. The lower extremities are frequently involved.

*Objective symptoms* The characteristic lesions are



FIG. 63 Lichen planus. A Reti-culated papules. B Umbilicated papules on the wrist. C Annular papules.

discrete flat, angular or polygonal, violaceous papules which are shiny in reflected light and vary from 1 to 4 mm in diameter. There is a tendency to central umbilication. Lines or streaks (Wickham's striae) may be observed. There is a scant adherent scale. The lesions may be annular and tend to form linear groups (Koebner phenomenon) or confluent areas.

The onset may be acute with a widespread eruption, the individual lesions of which are reddish in color or lichen planus may be of the chronic localized variety in which one or two areas of the body are involved with the typical angular violaceous flat-topped papules.

The lesions may be atrophic and whitish or ivory in color (atrophic lichen planus). On the lower extremities the lesions become large, hyperpigmented, and verrucous (hypertrophic or verrucous lichen planus). The characteristic papules are usually seen in the periphery of these hypertrophic lesions.

On the buccal surface and tongue the lesions appear as a retiform leukoplakia or sharply defined, white streaks.

**Subjective symptoms.** Moderate to severe itching.

**Etiology.** Unknown. Chronic emotional tension may be associated.

**Histopathology.** The microscopical picture is diagnostic. There is moderate hyperkeratosis and irregular or thinned thickening of the granular layer and liquefaction of the basal layer. The lymphocytic infiltrate is limited sharply to the upper cutis. The mucous membrane changes are similar to those seen in cutaneous lesions.

**Diagnostic aids.** History and physical examination biopsy.

**Relation to systemic disease.** Associated with emotional instability.

**Differential diagnosis.** Papular secondary syphilis, pruritus, erythema multiforme. The acute form may be mistaken for papular pityriasis rosea or exanthematous eruptions.

**Therapy.** There is no specific treatment for lichen planus. Emotional factors should be controlled. Tranquilizers or sedatives are good adjunctive therapy. Local antipruritics may be of value. Intramuscular injections of hexameth resorbutylate or vitamin B<sub>12</sub> may be of value. Butrimate tablet may be used.

## Lichen Sclerosus et Atrophicus

**Synonym.** Lichen albus; white spot disease.

**Sites of predilection.** Trunk and genitalia. Any part of the body may be involved. The condition occurs more commonly in women.

**Objective symptoms.** This chronic condition begins as angular flat whitish papules which become shiny flat atrophic lesions, which are usually discrete but may coalesce into large patches. Occasionally a pinkish halo is noted around the lesions. Keratinous plugging of the follicular orifices is common.

Many patients have genital involvement. Occasionally the disease is limited to the genitalia.

It is most common in middle-aged or elderly women. Laryngeal vulvae or balanitis xerotica obliterans may be associated.

**Subjective symptoms.** Itching, especially when the genitalia are involved.

**Etiology.** Unknown.

**Histopathology.** Keratinous plugging of sweat ducts, liquefaction degeneration of the basal layer, homogenization of connective tissue and hyperkeratosis.

**Diagnostic aids.** Biopsy.

**Relation to systemic disease.** None has been established.

**Differential diagnosis.** Morphea guttata atrophic lichen planus.

**Therapy.** None is effective.

## Lichen Spinulosus

**Synonym.** Keratosis follicularis spinulosa; lichen pilaris seu spinulosus.

**Sites of predilection.** Trunk and extremities.

**Objective symptoms.** This is an uncommon condition found usually in children. The eruption consists of groups of minute follicular papules from each of which projects a small spine.

**Subjective symptoms.** Little or no itching.

**Etiology.** Unknown. Believed to be a vitamin A deficiency.

**Histopathology.** The microscopical picture is not diagnostic.

**Diagnostic aids.** History and physical examination.

**Relation to systemic disease.** None has been established.

**Differential diagnosis** Keritosis follicularis keratoma pilaris

**Therapy** The lesions respond readily to local therapy with keratolytics such as 3 per cent salicylic acid ointment

### Lichenoid Eruption of the Axillae

**Synonym** Fox Fordyce disease

**Sites of predilection** Axillae pubes and areolae of the nipples

**Objective symptoms** This rare condition which occurs most commonly in women is characterized by an eruption of persistent nonscaly discrete flat papules, varying in size from 1 to 3 mm. in diameter. The lesions are located at the orifices of the hair follicles. The color varies from pink to violaceous. The papules may be closely aggregated but remain discrete. Excoriations and blood crusts followed by hyperpigmentation are prominent features.

**Subjective symptoms** Intense itching

**Etiology** Unknown

**Histopathology** Surface epithelium shows changes similar to those seen in chronic lichenoid eczema. There is keratotic plugging of the duct orifices and a variable subacute inflammatory reaction about the apocrine glands.

**Diagnostic aids** Biopsy

**Relation to systemic disease** None has been established

**Differential diagnosis** Contact dermatitis chronic lichenoid eczema (neurodermatitis)

**Therapy** None effective X-ray and topical applications are of doubtful value. Systemic hormone therapy may be of benefit. Plastic surgery may be necessary to produce relief from symptoms.

### Lipoidoses

Diseases of lipid metabolism with cutaneous manifestations include not only the xanthomas but also some less common entities.

**Gaucher's disease** is characterized by hepatomegaly with retention of cerebroside, rarefaction of the long bones, and a distinctive brown color of the skin. Xanthomatous tumors are not present. The condition occurs most commonly in Jews.

**Niemann Pick disease** occurs chiefly in Jewish infants. Hepatosplenomegaly, yellow skin, and xanthomatous tumors characterize the condition, which is associated with retention of sphingomyelin. This disease is progressive with fatal termination.

**Van Gierke's disease** is characterized by hypercholesterolemia and is associated with faulty glycogen metabolism. Xanthomatous tumors may be present.

**Extracellular cholesterosis** is a disease of cholesterol metabolism, in which lesions of the skin and mucous membrane form crops of firm, waxy nodules.

In **lipoid proteinosis** the mucous membrane and tongue become almost board like in hardness and exhibit yellowish plaques.

### Lipoma

**Synonym** Fatty tumor

**Sites of predilection** Any area of the body may be involved

**Objective symptoms** One to numerous variably sized subcutaneous tumors, covered with normal skin may be present. The lesions are soft and may be lobulated. The lesions are not attached to the skin.

**Subjective symptoms** None

**Etiology** Unknown

**Histopathology** Groups of larger than normal fat cells held together by connective-tissue trabeculae to form lobulated masses enclosed within a fibrous capsule.

**Differential diagnosis** Subcutaneous fibroma sebaceous cysts.

**Diagnostic aids** Biopsy

**Relation to systemic disease** There is a tendency to familial occurrence.

**Therapy** Excision

### Vascular Atrophy

**Synonym** Anotoderma (Schweininger and Buzzi) primary macular atrophy

**Sites of predilection** Trunk and extremities.

**Objective symptoms** This rare condition is characterized by the development of few to numerous bluish white small (0.3 to 1.0 cm. in diameter) smooth, soft circumscribed bladder-like

pseudotumors. These can be inverted by slight pressure into a hollow in the underlying tissue. The lesions develop slowly and are not associated with any previous inflammatory process.

*Subjective symptoms.* None.

*Etiology.* Unknown.

*Histopathology.* In the early stages there is a mild inflammatory reaction which eventually tends to disappear with a loss of elastic tissue.

*Diagnostic aids.* History and physical examination biopsy.

*Relation to systemic disease.* None has been demonstrated.

*Differential diagnosis.* Other macular atrophic lesions: scars.

*Therapy.* None effective.

### Maduromycosis

*Synonym.* Madura foot mycetoma podalkoma.

For details see chapter on Mycology

### Melanoma

*Synonym.* Malignant melanoma melano-carcinoma neurocanceroma malignant mole melanoblastoma.

*Sites of predilection.* Any area of the body may become involved.

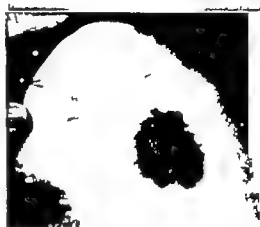
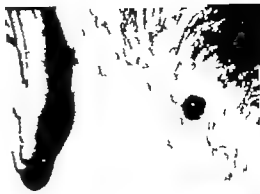
*Objective symptoms.* These malignant lesions arise most commonly from black, hairy, slightly elevated moles, although they may develop from any junction nevus. Usually single the lesions are noninflammatory and are brownish-black to black although occasionally they may be flesh-colored.

The lesions tend to grow rapidly and metastasize early. If ulceration occurs, death usually ensues within a few months.

*Subjective symptoms.* Usually none until late in the course of the disease. The patient becomes generally ill and sometimes stuporous.

*Etiology.* Unknown. There is an apparent association with endocrine activity and rapidity of development of melanoma. The growth is especially rapid during pregnancy.

*Histopathology.* Nerve cells at the dermal-epidermal junction increase in size with an increase in amount of melanin. Mitotic figures are seen, and the cells form an alveolar arrangement as



F 66 Melanoma, malignant

they invade the cutis. The macroscopic picture is diagnostic.

*Diagnostic aids.* Biopsy.

*Relation to systemic disease.* Symptoms may be related to organs where the lesions have metastasized. Melanomas which occur before puberty have a good prognosis.

*Differential diagnosis.* Pigmented moles pyrogenic granulomas.

*Therapy.* Wide excision, including stripping of the regional lymph nodes. Melanomas have a poor prognosis. The lesions are not sensitive to roentgen rays or radium.

### Miliaria Rubra

*Synonym.* Prickly heat.

*Sites of predilection.* Trunk, shoulders, neck, and flexures of the extremities.

Usually occurs in hot weather associated

with profuse perspiration. The primary lesion is a discrete follicular papule, papulo-vesicle or vesicle which is pink to red in color. The lesions occur in patches but do not coalesce.

*Subjective symptoms* Moderate to severe itching.

*Etiology* This condition may be associated with ingested food allergens, or excessive use of citrus fruits.

*Histopathology* Dilated cystic sweat ducts, with occlusion of the duct orifice.

*Diagnostic aids* The clinical appearance is characteristic.

*Relation to systemic disease* None has been established.

*Differential diagnosis* Folliculitis, atopic dermatitis, acne vulgaris.

*Therapy* Heat and excessive perspiration should be avoided. Absorbent dusting powders may be of value. Calamine lotion may help. Avoid ingestion of carbonated beverages and citrus fruits.

### Milium

*Synonym* Whiteheads

*Sites of predilection* Face

*Objective symptoms* This condition is frequently seen in association with acne vulgaris or oily skin and consists of small discrete solid, whitish cystic lesions filled with inspissated or cheesy material. They are not inflammatory.

*Subjective symptoms* None

*Etiology* Unknown

*Histopathology* A spherical horny cyst connected to a hair follicle. The cyst contents are a homogeneous lipid substance.

*Diagnostic aids* None usually necessary.

*Relation to systemic disease* None has been established.

*Differential diagnosis* Comedones.

*Therapy* The top of the lesion may be nicked with a sharp-pointed blade or needle and the contents expressed with a comedo expressor.

### Milker's Node

*Synonym* None

*Sites of predilection* Fingers, wrists, and forearms.

*Objective symptoms* This condition occurs in cattle

handlers and dairy workers. The primary lesion is a small inflammatory papule, which increases to 1 or 2 cm. in diameter within about a week, becoming bluish red and firm. The center of the nodule is umbilicated and may break down. Lymphangitis may occur.

*Subjective symptoms* Pain.

*Etiology* Virus

*Histopathology* The microscopic picture is not diagnostic.

*Diagnostic aids* Biopsy.

*Relation to systemic disease* Usually no constitutional symptoms accompany the cutaneous lesions.

*Differential diagnosis* Verrucae, pyogenic granulomas.

*Therapy* The disease is self limited and tends to clear in 6 to 10 months.

### Molluscum Contagiosum

*Synonym* Fowl pox, contagious epithelioma, water warts.

*Sites of predilection* Face, trunk, genitalia, and extremities.

*Objective symptoms* In this mildly contagious disease there are few to numerous, discrete globular umbilicated, flesh-colored to pinkish papules, which sometimes form groups. The lesions are usually waxy in appearance. The center of the lesion is occupied by a firm caseous mass.



FIG. 67 Molluscum contagiosum

called the *molluscum body*. The individual lesions vary from a few millimeters to 1 cm. in diameter. They may become secondarily infected. The disease is autoinoculable.

**Subjective symptoms.** None to slight itching.

**Etiology.** Virus.

**Histopathology.** The macroscopic picture is diagnostic. Pear-shaped proliferations of prickly cells magnate the cutis. The basal layer and lower layers of the cutis are normal, but the more superficial prickly cells show variously sized vacuoles and eosinophilic hyaline bodies, which may occupy almost the entire cell. Basophilic granules are also present at first, but these disappear with the formation of a keratin membrane about the periphery.

**Diagnostic aids.** Recovery of the molluscum body by expression. Biopsy.

**Relation to systemic disease.** None.

**Differential diagnosis.** Adenoma sebaceum, verrucae, benign cystic epithelioma, pigmented nevus, acne vulgaris.

**Therapy.** Curettage, electrodesiccation or dichloroacetic acid. Expression of the molluscum body.

### Molluscum Fibrosum Gravidarum

**Synonym.** None.

**Sites of predilection.** Breasts, neck, and upper chest.

**Objective symptoms.** Soft pedunculated fibromas which appear and grow during the latter months of pregnancy and tend to disappear postpartum. The lesions vary from 2 mm. to 5 mm. in diameter.

**Subjective symptoms.** None.

**Etiology.** Unknown, associated with pregnancy.

**Histopathology.** Well circumscribed fibromas which have a light fibrous capsule.

**Diagnostic aids.** History, physical examination, and clinical symptoms. Biopsy.

**Relation to systemic disease.** Growth of the lesion is associated with the latter months of pregnancy.

**Differential diagnosis.** Simple fibroma, neurofibromatosis, fibromatous papilloma.

**Therapy.** The lesions frequently disappear almost entirely following delivery.

### Neurofibrosis Lipoidica Diabeticorum

**Synonym.** Dermatitis atrophicans lipoides diabética.

**Sites of predilection.** Lower extremities. Lesions have been reported on the upper extremities and trunk.

**Objective symptoms.** The primary lesion is a sharply defined, reddish papule which may be slightly scaly and varies from 1 to 3 cm. in diameter. This lesion slowly spreads peripherally, becoming an irregularly round or oval scleroderma-like plaque. The central portion is depressed and assumes a yellowish tinge. The lesion is shiny and translucent. Numerous telangiectatic vessels may be seen in the central portion. Ulceration rarely occurs.

**Subjective symptoms.** None.

**Etiology.** Unknown.

**Histopathology.** Neurototic changes in the collagen fibers, with homogenization and degeneration of the fibers. Perivascular infiltrate with obliterative vascular changes. Extracellular lipid deposits are seen. Palisading of epithelioid cells may occur.

**Diagnostic aids.** Biopsy, history and physical examination, urinalysis, blood sugar determination.

**Relation to systemic disease.** One-third to one-half the cases occur in diabetics.

**Differential diagnosis.** Localized scleroderma, localized myxedema, xanthoma.

**Therapy.** None effective.

### Neurofibromatosis

**Synonym.** Von Recklinghausen's disease, molluscum fibrosum, fibroma.

**Sites of predilection.** Trunk to a lesser extent on the head, face and extremities.

**Objective symptoms.** There are numerous soft flesh-colored tumors, which vary from 1 mm. to several centimeters in diameter. Smaller lesions may be pressed into the skin as into a hollow. Older lesions may be dark brown in color. The growths may be sessile or pedunculated. An occasional tumor may be large and pendulous. There may be widespread freckling over the entire skin. There are usually one or



FIG. 68 Neurofibromatosis

more light brown macules, varying in size from 2 to 10 or more cm. in diameter (*café au lait spots*)

**Subjective symptoms** Usually none except the emotional trauma associated with the cosmetic defect

**Etiology** Unknown The disease usually appears about the time of puberty or early in adult life but may be present at birth

**Histopathology** Tumors of nerve sheaths which may arise from connective tissue or the sheath of Schwann. They are well circumscribed and have a light fibrous capsule. Tumors are composed of wavy fibrils of young collagen which tend to form whorls. A variable amount of older collagen is present

**Diagnostic aids** Biopsy, the clinical picture is usually characteristic

**Relation to systemic disease** There may be developmental defects in the nervous system, muscles, and bone. Idiocy and epilepsy may be present

**Differential diagnosis** Multiple lipomas, skin tags, multiple sebaceous cysts, verrucae, leprosy (lepromatous type)

**Therapy** None effective

### Nevoanthoendothelioma

**Synonym** Juvenile xanthoma, juvenile xanthogranuloma

**Sites of predilection** Face, scalp, and upper part of the trunk

**Objective symptoms** Usually beginning in the first few weeks of life, the lesions consist of one or more groups of yellowish or yellowish-brown

papules or nodules. The lesions tend to disappear spontaneously over a prolonged period.

**Subjective symptoms** None

**Etiology** Unknown

**Histopathology** Proliferation of endothelial cells and histiocytes, with endothelial giant cell formation associated with xanthoma cells and Touton giant cells. The microscopic picture is diagnostic

**Diagnostic aids** Biopsy, history and physical examination, blood studies

**Relation to systemic disease** None. The blood lipid values are usually normal

**Differential diagnosis** Various other nevus lesions

**Therapy** None necessary since the lesions tend to disappear spontaneously

### Nevus Blue

**Synonym** Blue nevus of Jadassohn

**Sites of predilection** Face, forearms, and hands

**Objective symptoms** Well defined, firm, round or oval papules, varying from 2 to 15 mm. in diameter. The lesion is usually dark gray or blue. The lesions begin in infancy or early childhood and do not increase in size

**Subjective symptoms** None

**Etiology** Unknown

**Histopathology** Histopathologic picture is characteristic. Irregular masses of spindle-shaped melanocytes are seen in the lower two-thirds of the cutis

**Diagnostic aids** Biopsy

**Relation to systemic disease** None

**Differential diagnosis** Melanoma, Mongolian spots

**Therapy** None necessary except for cosmetic effect. If the lesion is removed surgically it should be excised widely and deeply because of the possible development of melanocarcinoma in incompletely removed lesions.

### Nevus Pigmentosus

**Synonym** Mole, pigmented mole, benign melanoma

**Sites of predilection** Any area of the body

**Objective symptoms** Pigmented nevi are flesh-colored to brown or black, circumscribed tumors,



Fig. 89 Verruca with hair

which vary in size from a few millimeters to many centimeters in diameter. Hairs may protrude from the surface of these noninflammatory lesions. They are usually sessile and smooth, but may be verrucous.

*Subjective symptoms* None.

*Etiology* Congenital.

*Histopathology* Nerve cells tend to form alveolar arrangements or strands in the cutis. Increased cellular activity may occur at the dermal-epidermal junction.

*Diagnostic aids* Biopsy.

*Relation to systemic disease* None.

*Differential diagnosis* The lesions are characteristic. If the lesion has grown in size or changed shape, biopsy may be indicated to rule out malignant degeneration.

*Therapy* None usually necessary. Excision for cosmetic purposes may be desirable. All excised specimens should be examined histologically.

#### Panniculitis Relapsing Febrile Nodular Non-Suppurative

*Synonym* Weber-Christian disease; atrophy of the fatty layer of the skin.

*Sites of predilection* Trunk and extremities.

*Objective symptoms* In this unusual condition round or irregular subcutaneous nodules, which vary in size up to 10 cm. in diameter, gradually form trophic sclerotic plaques. The skin over the lesions is bluish but has normal texture.

Occasionally the lesions become cystic, and discharge an oily or fatty fluid.

*Subjective symptoms* Fever, malaise, vomiting, and muscular pain.

*Etiology* Unknown.

*Histopathology* Large numbers of phagocytic cells or histiocytes replace the fat cells. A marked perivascular reaction is present and occasionally foreign body giant cells are seen.

*Diagnostic aids* Biopsy.

*Relation to systemic disease* None has been established.

*Differential diagnosis* Erythema nodosum, erythema induratum, morphea, subcutaneous fat necrosis, paraneoplasia.

*Therapy* None effective.

#### Parapsoriasis en Coustures

*Synonym* *Psoriasis lichenoides chronica*, *dermatitis psoriasiformis nodularis*.

*Sites of predilection* Generalized except for hands, face, and scalp.

*Objective symptoms* The eruption consists of discrete small reddish papules, with varying amount of scale. The condition is chronic.

*Subjective symptoms* None.

*Etiology* Unknown.

*Histopathology* The microscopic picture is not diagnostic.

*Diagnostic aids* Biopsy.

*Relation to systemic disease* None has been established.

*Differential diagnosis* Psoriasis, secondary syphilis, lichen planus.

*Therapy* None effective.

#### Parapsoriasis en Plaques

*Synonym* None.

*Sites of predilection* Trunk and extremities.

*Objective symptoms* The primary lesion is a scaly macule which is not infiltrated, but forms plaques, resembling seborrheic dermatitis. The color varies from pinkish-red to brownish. The condition is chronic and does not respond to therapy.

*Subjective symptoms* None.

*Etiology* Unknown.



**Histopathology** The microscopic picture is not diagnostic

**Diagnostic aids** Biopsy

**Relation to systemic disease** Some authorities state that parapsoriasis *en plaque* occasionally eventuates into granuloma fungoides; others believe that the lesions which eventuate into granuloma fungoides have the characteristic histopathologic picture from the beginning

**Differential diagnosis** Granuloma fungoides psoriasis

**Therapy** None effective

### Parapsoriasis is Lichenoides

**Synonym** Ritiform parapsoriasis parakeratosis variegata

**Sites of predilection** Generalized

**Objective symptoms** The lesions of this form of parapsoriasis are so extensive that the patient appears to have been covered with a net. The primary lesion is a scaly flat topped papule which appears to be intermediate between the lesions of lichen planus and those of psoriasis. The condition is chronic and does not respond to therapy

**Subjective symptoms** None

**Etiology** Unknown

**Histopathology** The microscopic picture is not diagnostic

**Diagnostic aids** Biopsy

**Relation to systemic disease** None has been established

**Differential diagnosis** Lichen is lichen planus

**Therapy** None effective

### Parapsoriasis Varioliformis

**Synonym** Lityra is lichenoides et varioliformis acuta (Habermann)

**Sites of predilection** Generalized

**Objective symptoms** This condition which is usually self limited is considered a variety of the *en gouttes* form of parapsoriasis. The lesions are multifocal not infrequently beginning as a vesicular eruption simulating varicella. Macules and papules are seen. Some of the papules develop necrotic centers resulting in varioliform scars. The course may be acute and self limited or chronic and recurring. Generalized lymph

adenopathy may occur. The disease may occur at any age.

**Subjective symptoms** None to slight itching

**Etiology** Unknown

**Histopathology** The microscopic picture is not diagnostic. There is a heavy cellular infiltrate in the cutis with a perifollicular foreign-body giant cell reaction.

**Diagnostic aids** Biopsy

**Relation to systemic disease** In view of the generalized lymphadenopathy and the occasional constitutional symptoms which occur this is probably a systemic illness.

**Differential diagnosis** Lityra is rosea varicella secondary syphilis

**Therapy** None effective

### Periarthritis Nodosa

**Synonym** Polyarthritis nodosa

**Objective symptoms** The cutaneous lesions of periarthritis nodosa are multifocal. Nodules purpuric lesion; urticaria erythema nodosum or erythema multiforme-like lesions may be seen. Tender nodules may be felt along the course of a superficial artery. Ulceration may occur.

**Subjective symptoms** Malaise weakness and pain.

**Etiology** Unknown

**Histopathology** Inflammatory degeneration of segments of the arterial wall with perivascular leukocytic infiltrate. There may be intimal proliferation.

**Diagnostic aid** Biopsy history and physical examination hemogram blood chemistry

**Relation to systemic disease** Periarthritis nodosa is a systemic disease which often has a fatal outcome. The course is marked by irregular fever tachycardia eosinophilia and nephritis. The condition may be marked by remissions and exacerbation or may be fulminating. Skin lesions may be absent entirely.

**Differential diagnosis** Erythema nodosum urticaria erythema multiforme purpura

**Therapy** None effective

### Lityra Rosea

This eruption is usually macular and is described in the chapter on Macular Eruptions. Occasionally the early lesions are tiny grouped

papules which eventuate into the characteristic macular lesions, or persist as a papular eruption. For more details see pityriasis, raised in the chapter on Macular Eruptions.

### Pityriasis Rubra Pili

*Synonym* Lichen ruber lichen ruber acuminatus.

*Sites of predilection* Dorsal surfaces of the proximal phalanges of the fingers, extensor surfaces of the wrist and forearm, anterior axillary fold, elbows and knees.

*Objective symptoms* The characteristic lesions are hard, dry follicular papules, surrounding a lustreless hairshaft. They are pink to bright red in color. The lesions may coalesce to form exfoliating areas.

The face, head, and scalp may develop a scalp eruption which simulates seborrheic dermatitis. The condition may progress to a generalized exfoliative dermatitis.

*Subjective symptoms* None to slight itching.

*Etiology* Unknown.

*Histopathology* Marked follicular hyperkeratosis with a collarlike parakeratosis. Liquefaction of the basal layer. There is an infiltrate of polymorphonuclear leucocytes and lymphocytes. The elastic tissue is intact.

*Diagnostic aids* Biopsy.

*Relation to systemic disease* No specific relation although late in the course of the disease the patient may become cachectic.

*Differential diagnosis* Lichen planus exfoliative dermatitis lichenoid purpura eczema.

*Therapy* None effective. Emollient and antipruritic may help.

### Porokeratosis

*Synonym* Keratoderma eccentrica hyperkeratosis figurata centrifuga atrophica.

*Major symptoms* This rare disease usually begins as a small wart-like papule which enlarges peripherally developing an atrophic center and a sharply defined elevated border which is ridged and hyperkeratotic. The ridge is gray or brownish in color and the central portion is usually atrophic.

*Subjective symptoms* None.

*Etiology* Unknown.

*Histopathology* Hyperkeratosis and acanthosis.

There is a deep groove filled with a large horny plug containing parakeratotic cells (cornoid lamella). Lymphocytic infiltration is present in the cutis, with vascular dilatation. The microscopic picture is diagnostic.

*Diagnostic aids* Biopsy.

*Relation to systemic disease* None has been established.

*Differential diagnosis* The condition is characteristic.

*Therapy* Excision or destruction by electrodesiccation.

### Prurigo

The term prurigo has been applied to many different forms of nodular cutaneous afflictions. As originally described by Hebra the disease may be mild (prurigo minor) or severe (prurigo ferus). This rare condition, supposedly limited to adult women, is called prurigo nodularis. All forms of prurigo itch intensely and are characterized by the formation of nodules. These lesions are probably a form of eczema, the nodules resulting from chronic irritation.

### Pseudovanthom Elsiesium

Although this condition begins frequently as a papule its eventual lesion is a nodule and is described fully in the chapter on Macular Eruptions.

### Psoriasis

*Synonym* Lepra alba alba.

*Sites of predilection* Extensor surfaces of the extremities (elbows, knees) the scalp, the trunk and nails. Lesions rarely occur on the face.

*Objective symptoms* Psoriasis is a chronic, relapsing disease the primary lesion of which is a well defined, flat-topped papule or circumscribed plaque. The lesions are pinkish to reddish-brown and are covered with a profuse dry silvery white imbricated scale. The individual lesions vary from a few millimeters to 20 cm or more in diameter. They are round irregular or gyrate in shape. The eruption is frequently symmetrically distributed. If the scale is removed bleeding points are exposed (Auspitz sign). Central involution may occur forming annular lesions. The nails may become thickened eroded,



FIG 70 Psoriasis

and brittle and show pit formation. Well-defined scaly lesions form in the scalp and are difficult to differentiate from seborrheic dermatitis.

The general health of the individual is usually not affected. Small shotty pustules may occur on the palms and soles.

**Subjective symptoms.** None except for the cosmetic defect.

**Etiology.** Unknown.

**Histopathology.** There is an increase in the keratin layer with much parakeratosis, long rete pegs with corresponding long narrow dermal pegs, and a thin layer of rete over the dermal pegs. The capillaries in the dermal pegs are dilated, long, and rigid. There is moderate edema and a mixed subacute infiltrate in the papillary and subpapillary layers.

**Diagnostic aids.** History and physical examination, biopsy.

**Relation to systemic disease.** Although there is no proof that psoriasis is a systemic disease, many investigators feel that it is a metabolic disorder possibly related to dysfunction in phospholipid metabolism. Others feel that it is a disturbance of one of the enzyme systems. Rheumatoid arthritis (psoriatic arthropathy) may be associated with the eruption.

**Differential diagnosis.** Seborrheic dermatitis, secondary syphilis, lichen planus, pityriasis rosea, nail lesions simulate onychomycosis.

**Therapy.** There is no specific therapy for psoriasis. Many patients will respond to systemic placebo therapy, and others seem to improve with ultraviolet therapy or natural sunlight. Vitamin B<sub>12</sub> by injection has been reported as suc-

cessful T anquilizers are of value in some cases. Ointments containing 1 to 5 per cent chrysarobin or 1½ to 1½ per cent anthralin (purified derivative of chrysarobin) have helped. Many proprietary preparations are available to relieve the scaling.

Röntgen rays should be avoided because of the chronic recurrent nature of the condition.

### Rhinoscleroma

*Synonym.* None

*Sites of predilection.* Nose, lips and nasopharynx.

*Objective symptoms.* The condition begins as flat plaques, papules, or nodules which spread peripherally. The tissues become indurated to the point where the nostrils cannot be compressed. The induration may extend to involve the lip, cheeks and the nasopharynx. Ulceration may follow trauma or infection.

*Subjective symptoms.* Pain and tenderness.

*Etiology.* *Rhizoscleroma*.

*Histopathology.* A granuloma which is diagnostic because of the presence of many plasma cells, Russell bodies (colloid cell) and Mikulicz cells (large histiocytes). Russell bodies are plasma cells which have undergone hyaline degeneration. The Mikulicz cells contain many Frisch basophil

*Diagnostic aids.* Biopsy

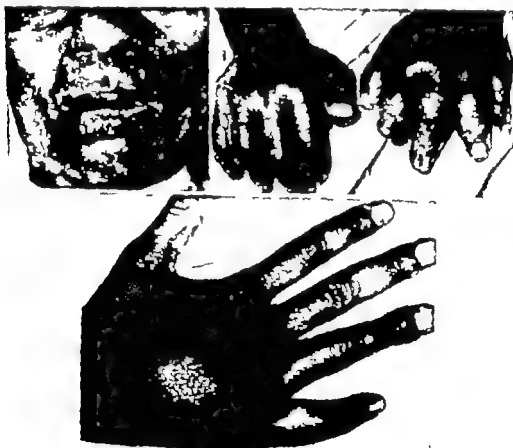
*Relation to systemic disease.* None has been established.

*Differential diagnosis.* Rosacea, cellulitis.

*Therapy.* None effective. Streptomycin and the tetracyclines have reportedly been of benefit.

### Sarcoidosis

*Synonym.* Sarcoid, multiple benign sarcoid, benign military lupoid (Hoeck), lupus pernio (Boenier).



benign lymphogranulomatosis (Schaumann)  
subcutaneous sarcoid (Darier Roussy)

*Sites of predilection* Any part of the body may be affected

*Objective symptoms* The cutaneous lesions are painless and are profuse

Nodules, papules, macules and infiltrating plaques may be present. Atrophic or scarred lesions may occur. The lesions may be white, yellow, dull red or dark. Annular and circinate forms may be seen. Small discrete and confluent translucent dull reddish or flesh-colored papules occurring on the alae of the nose and the back of the neck are characteristic. There is frequently a generalized lymphadenopathy. Enormous swelling of the parotids and destruction of the distal portions of the digits are not uncommon. Swelling of the parotid glands and iridocyclitis (mumps-parotid fever) are also symptoms of the disease. The nodules may be small and superficial or large and subcutaneous.

*Subjective symptoms* Malaise, cough, cachexia and general debility.

*Etiology* Unknown

*Histopathology* Circumscribed nests of epithelioid cells surrounded by a fibrous network. Foreign body giant cells are present.

*Diagnostic aids* Biopsy. The tuberculin test is usually negative. X-ray of the chest may reveal infiltrations in the hilar regions. Hypoproteinaemia with reversal of the albumin-globulin ratio may be present and there may be a tendency toward lowered total white count.

*Relation to systemic disease* Sarcoidosis is always a systemic disease.

*Differential diagnosis* Lupus vulgaris, lymphoma, lupus erythematosus, discoid type.

*Therapy* Sarcoidosis responds well to systemic corticosteroid therapy. Good results have also been reported with antimalarial drugs such as Triquin, Camoquin, Aralen and Atabrine.

**Sarcoma of Kaposi** Multiple Hemorrhagic

*Synonym* Idiopathic hemorrhagic sarcoma

*Sites of predilection* Lower extremities, less commonly upper extremities

*Objective symptoms* This slowly progressive malignant disease begins as groups of small bluish

red to reddish brown papules or nodules. The semisolid lesions may be discrete or confluent forming ill defined plaques. Telangiectases may be present. The lesions may remain unchanged for several months or temporarily involute spontaneously. New lesions invariably develop and ulceration may occur. Occasionally the tumors assume massive proportions. The legs become greatly enlarged and the skin covered with nodules and is bluish or purplish. The course of the disease is slowly progressive over a period of 1 to 20 years. Death may be caused by visceral involvement.

*Subjective symptoms* Visceral involvement is productive of constitutional symptoms.

*Etiology* Unknown

*Histopathology* Early lesions are granulomatous. There is dilatation and an increase in the number of blood vessels in the corium. Later lesions are angiomatous or resemble fibrosarcoma.

*Diagnostic aids* Biopsy, history and physical examination.

*Relation to systemic disease* Lesions may develop in any or all of the viscera.

*Differential diagnosis* Late cutaneous syphilis, erythema induratum, erythema nodosum, lymphoblastoma.

*Therapy* Conventional roentgen rays in divided doses may be of value.

### Saurianis

*Synonym* Severe ichthyosis, alligator skin

*Sites of predilection* Trunk and extremities.

*Objective symptoms* This is a severe form of ichthyosis in which all symptoms are magnified so that the integument resembles an alligator's hide with wart-like or spiny projections, dark gray in color. The condition is noninflammatory. Extensive ichthyosis in a newborn infant may be fatal (Harlequin fetus).

*Subjective symptoms* None

*Etiology* Congenital

*Histopathology* Hyperkeratosis with diminution or absence of the granular layer.

*Diagnostic aids* Biopsy, history and physical examination.

*Relation to systemic disease* None

**Differential diagnosis** The condition is character-  
istic

**Therapy** None reflective keratolytics may help

### Sporotrichosis

**Synonym** None

**Sites of predilection** Distal portions of the ex-  
tremities.

**Objective symptoms.** The organism is inoculated  
through contact with infected animal excreta  
or vegetation in an area of trauma. The first  
lesion which appears is an indurated nodule  
called the sporotrichal chancre. A localized ab-  
scess or ulcer forms at this site and the infection  
spread along lymphatic channels, leaving a  
series of painless, painless nodules (1 to  
2 cm) which may become fluctuant. Regional  
lymphadenopathy is uncommon. Visceral in-  
volvement especially pulmonary frequently  
occurs. Chronic involvement and chronic drain-  
ing sinus may develop.

**Subjective symptoms.** The cutaneous lesions cause  
few if any subjective symptoms.

**Etiology** *Sporotrichum schenckii*

**Histopathology** Nonspecific granuloma containing  
plasma cells, epithelioid cells and Langhans  
giant cell.

**Diagnostic aids.** Culture on Sabouraud's media  
 biopsy roentgenogram of chest.

**Relation to systemic disease** The disease may be-  
come systemic.

**Differential diagnosis.** Syphilis localized pyogenic  
abscesses other deep mycoses tularemia tu-  
berculosis carcinoma.

**Therapy** Ictantrum iodide 2 to 6 gm daily by  
mouth, or sodium iodide daily injections, 1 to  
6 gm intravenously.

### Syphilis Lat Cutaneous

**Synonym** Gumma

**Sites of predilection** Lower third of the legs thighs,  
trunk face and scalp. Any area may become  
involved.

**Objective symptoms** The cutaneous lesions of late  
syphilis may appear as a solitary nodule or  
plaque-like lesion.

**Subjective symptoms.** These are usually solitary  
subcutaneous nodules which appear from 5 to

30 years after onset of infection. These lesions  
grow slowly the overlying skin gradually be-  
coming hyperpigmented. When the lesions at-  
tain a size of 5 cm. or larger they become fluctu-  
ant and the overlying skin sloughs to form a  
crateriform or cup-shaped ulcer with precipi-  
tous sides.

**Nodular syphiloderma** These plaque-like le-  
sions are in form of late syphilis which appear  
from 2 to 5 years after onset of infection. They  
begin as a group of nodules which coalesce to  
form a verrucous plaque in the border of  
which may be felt the subcutaneous nodules.  
The lesions may ulcerate forming a nodular  
ulcerative syphiloderma. When the nodules ulcer-  
ate the characteristic gumma-like ulcers are  
formed.

**Subjective symptoms** None

**Etiology** See chapter on Venereal Diseases

**Histopathology** See chapter on Venereal Diseases

**Diagnostic aids** See chapter on Venereal Diseases.

**Relation to systemic disease** See chapter on Ven-  
ereal Diseases.

**Differential diagnosis** See chapter on Venereal  
Diseases.

**Therapy** See chapter on Venereal Diseases

### Syphilis, Papular

**Synonym** The pox secondary syphilis.

**Sites of predilection** Generalized

**Objective symptoms.** The lesions may be small  
conical papules 1 or 2 mm. in diameter which  
are reddish-brown (coppery or raw ham) in  
color discrete or forming small groups (false  
corymbous grouping).

The lesions may be large and flat (lenticular  
papules) varying in size from 2 mm. to 1 cm.  
in diameter. These lesions also have the char-  
acteristic color. They may form groups, with a  
central lesion surrounded by a ring of papules  
(true corymbous grouping).

Annular papules occur most commonly on  
the face. When these occur at the corners of  
the mouth or in the nasolabial folds they form  
split papules. This type of lesion is most fre-  
quently seen in Negroes.

In the genitalocutaneous areas, under the breast  
between the toes, and in the perianal region,

papules become hypertrophied and eroded with a grayish moist surface. These lesions are usually discrete but may become confluent and are known as *hypertrophic eroded papules* or *condylomata lata*. These lesions are highly contagious usually teeming with spirochetes.

**Subjective symptoms** Usually none although Negroes may complain of itching.

**Etiology** *Treponema pallidum*

**Histopathology** The picture is suggestive but not pathognomonic. There is some parakeratosis and the rete shows a varying degree of acanthosis without much edema. The infiltrate which consists of mononuclear cells (small and large) and plasma cells tends to be dense toward the surface and decreases like an inverted cone. There is endothelial swelling of the superficial and deep vessels which are surrounded by a coat-sleeve infiltrate.

**Diagnostic aids** Dark field examination, serologic tests for syphilis, history and physical examination.

**Relation to systemic disease** Syphilis is always a systemic disease. See the chapter on Venereal Diseases.

**Differential diagnosis** Lichen planus, papular pityriasis rosea, lichen planus, verruca acuminata.

**Therapy** See the chapter on Venereal Diseases.

### Syringocystoma

**Synonym** Syringocystadenoma

**Sites of predilection** Trunk and extremities.

**Objective symptoms** This is a rare condition in which one sees numerous small (1 to 3 mm) shiny pinkish to brownish or yellow translucent papules.

**Subjective symptoms** None.

**Etiology** Congenital. These lesions are small tumors derived from misplaced embryonic sweat ducts or sweat glands.

**Histopathology** Large number of round or oval masses of epithelium and epithelial lined tubules. Malformed sweat tubules in aimless coils are present in the dermis.

**Diagnostic aids** Biopsy.

**Relation to systemic disease** None has been established.

**Differential diagnosis** Benign cystic epithelioma, papular syphiloderm, the xanthomas.

**Therapy** None is effective. The lesions may be destroyed locally if desired.

### TUBERCULOSIS CUTIS

Tuberculosis of the skin occurs with less frequency in the United States than in most countries of Europe and Asia. The type of clinical manifestation depends on the site and mode of inoculation and the degree of immunity of the individual.

Cutaneous tuberculosis may be caused by inoculation of the tubercle bacillus from an outside source or associated with hematogenous spread or sensitization reaction.

I Cutaneous tuberculosis caused by inoculation into the skin.

A Primary tuberculous complex is known as a tuberculous chancre and results from local inoculation of the *Mycobacterium tuberculosis* into the skin in the absence of immunity.

B Tuberculosis verrucosa cutis is a localized warty lesion which results from local inoculation of the *Mycobacterium tuberculosis* into the skin of individuals who have developed partial immunity.

C Tuberculosis cutis orificialis lesions are ulcers which occur about the nose, mouth and anus in persons who have extensive active visceral tuberculosis.

D Tuberculosis cutis colligativa (scrofuloderma). These rare granulomatous lesions result from sinus tracts which originate in lymph nodes, joints, or bones.

E Lupus vulgaris (tuberculosis cutis luposa) causes nodular lesions which usually occur on the face.

II Cutaneous tuberculosis caused by hematogenous spread of the disease or sensitization reactions.

A Acute miliary tuberculosis is a fulminating form of the disease in which the lesion are not limited to the skin. There is little or no immunity present and the condition is fatal.



FIG. 2. Tuberculosis cutis. A Indurativa B Paponecrotic tuberculide C Verrucosa

- H Tuberculosis paponecrotica (folliculitis or paponecrotic tuberculide)
- C Lieben scrofulorum.
- D Tuberculosis miliaris disseminata faciei
- E Tuberculosis cutis indurativa (erythema induratum)

#### Tuberculosis Cuti Colligativa

*Synonym.* Scrofuloderma

*Sites of predilection.* Area overlying lymph nodes, joints, or bones

*Objective symptoms.* Scrofuloderma is manifested by a deep-seated nodule which gradually increases in size becomes fluctuant and ulcerates, forming a granulomatous mass, which is the termination of sinus tract. There may be numerous orifices which exude a thin, serous, sanguinous, or sanguino-purulent material. Dense linear band of scar tissue may form in the granulating area

*Subjective symptoms.* Some discomfort but surprisingly little when the extensive nature of the condition is considered

*Etiology.* Mycobacterium tuberculosis.

*Histopathology.* Tubercles within lymph nodes, undergo caseation necrosis with subsequent sinus tract formation. Tubercles may be found in the borders of the ulcers

*Differential diagnosis.* Lymphogranuloma venereum late cutaneous syphilis blastomycosis and other deep fungus diseases.

*Relation to systemic disease.* The lesion is a manifestation of active tuberculosis.

*Diagnostic aids.* History and physical examination biopsy x-ray of chest studies for tuberculosis.

*Therapy.* Streptomycin dihydrostreptomycin isonicotinic acid and p-aminosalicylic acid. The underlying condition must be treated

#### Tuberculosis Cutis Indurativa

*Synonym.* Erythema induratum Bazin's disease

*Sites of predilection.* Calves

*Objective symptoms.* One or more deep-seated nodules are located in the subcutaneous tissues. These lesions which vary from 1 to 4 cm gradually enlarge and undergo necrosis, forming ulcers, which heal with depressed scars. The skin over the lesions is usually dull reddish to bluish-red in color

The lesions tend to heal spontaneously but recur. They most frequently occur in young women.

*Subjective symptoms.* The intact lesions are slightly tender. When ulceration occurs they may be very painful



**Etiology** *Mycobacterium tuberculosis*

**Histopathology** Numerous discrete tubercles form around the blood vessels in the subcutis. The vessel walls are thickened and the vessels are destroyed. There is marked inflammatory reaction in the subcutaneous tissue.

**Diagnostic aids** History and physical examination, biopsy, x ray of chest, studies for tuberculous.

**Relation to systemic disease** Active pulmonary or visceral tuberculosis may be associated.

**Differential diagnosis** Cumma erythema nodosum.

**Therapy** Streptomycin or dihydrostreptomycin and/or monazid and p-aminosalicylic acid.

### **Tuberculosis Cutis Luposa**

**Synonym** Lupus vulgaris.

**Sites of predilection** Nose and contiguous portions of the face. Any part of the body may be involved.

**Objective symptoms** The condition begins as one or more small soft yellowish red or reddish brown nodules which gradually increase in number and coalesce forming plaques. If a heavy glass slide (diascope) is pressed onto the lesion the individual translucent nodules with their characteristic reddish brown color may be seen. The lesions may become hypertrophic and local edema may be present. There may be telangiectasia and regional lymphadenopathy. As the central portion of the lesion heals a thin scar resembling crumpled tissue paper or cigarette paper forms. Ulceration and scar tissue may cause severe cosmetic deformity.

**Subjective symptoms** None except for the cosmetic defect.

**Differential diagnosis** Sarcoid, discoid lesions of lupus erythematosus, epitheliomas.

**Etiology** *Mycobacterium tuberculosis*

**Histopathology** Tubercle formation in the mid and upper cutis with little tendency to caseation necrosis. The early lesions have a heavy lymphocytic infiltrate which is replaced by epithelioid cells and giant cells. Dermal appendages are atrophied.

**Relation to systemic disease** Associated with visceral tuberculosis.

**Diagnostic aids** History and physical examination, biopsy, x ray of chest, studies for tuberculosis.

**Therapy** Streptomycin, dihydrostreptomycin, monazid and p-aminosalicylic acid.

### **Tuberculosis Cutis Oculialis**

**Synonym** Tuberculous ulcers.

**Sites of predilection** About the nose, mouth, and anus.

**Objective symptoms** This form of cutaneous tuberculosis is associated with the late stages of widespread tuberculosis of the lungs or other internal organs. It begins with the formation of small yellowish nodules, which break down to form shallow granulating ulcers. These lesions spread peripherally and show no tendency to heal.

**Subjective symptoms** Some discomfort especially when the tongue is involved.

**Etiology** *Mycobacterium tuberculosis*

**Histopathology** Large numbers of circumscribed tubercles in the corium. Tubercle bacilli are easily demonstrated in the tissue.

**Differential diagnosis** Blastomycosis, pyoderma.

**Relation to systemic disease** Related to advanced visceral tuberculosis. The tuberculin test may be negative.

**Diagnostic aids** History and physical examination, roentgenograms of chest, sputum examination, biopsy.

**Therapy** Streptomycin, dihydrostreptomycin, monazid and p-aminosalicylic acid.

### **Tuberculosis Cutis Papulonecrotica**

**Synonym** Folliculitis papulonecrotica tuberculosa acuta.

**Sites of predilection** Trunk, extremities and face.

**Objective symptoms** There are few to numerous discrete deep-seated dull red to purplish rounded sessile papules. The center of each lesion undergoes necrosis. The crusted lesions may persist for years.

**Subjective symptoms** None except the mental distress caused by the unsightly lesions.

**Histopathology** Obliterative endovascularitis in the cutis and subcutis, with caseous tubercle formation and small necrotic crusted ulcers.

**Etiology** *Mycobacterium tuberculosis*

**Differential diagnosis.** Folliculitis, papulopustular secondary syphilis.

**Relation to systemic disease.** Probably a sensitization reaction associated with visceral tuberculosis.

**Diagnostic aids.** History and physical examination biopsy studies for systemic tuberculosis.

**Therapy.** Treatment of the underlying condition.

### Tuberculous Cutis Ferruginea

**Synonym.** Latent tubercle, prosector's wart, erruca ferruginea.

**Sites of predilection.** Hands, knees, or other areas subject to trauma.

**Objective symptoms.** This condition begins at the site of an abrasion or wound with a deep-seated, circumscribed, bluish-red or dull red, subcutaneous nodule which usually has a very rough surface. The lesion may become hypertrophic or may involute in the center with an atrophic scar. The lesion varies from 2 mm. to irregular plaques up to 1 cm. in diameter. Pus-tules may develop within the lesion.

**Subjective symptoms.** Usually none.

**Etiology.** *Mycobacterium tuberculosis*.

**Histopathology.** Marked acanthosis and hyperkeratosis are present and there is a heavy plasma cell and round cell infiltrate in the upper cutis. Tubercle formation may be demonstrated.

**Differential diagnosis.** Blastomycosis, erythema chronicum proclerum, granuloma annulare, foreign body granuloma.

**Relation to systemic disease.** Tuberculosis is a systemic disease.

**Diagnostic aids.** Biopsy, history and physical examination, x-ray examination of the chest.

**Therapy.** Surgical excision or destruction by electrocoagulation.

### Tuberculous Complex—Primary

**Synonym.** Tuberculous chancre.

**Sites of predilection.** Face, extremities, and genitalia.

**Objective symptoms.** This lesion may vary from an inconspicuous, spontaneously healing nodule to large bluish-red nodule or plaque with a central crusted ulcer and rolled border. Regional lymph nodes may become enlarged from 1 to 5

cm. in diameter. There are frequently productive of draining sinuses.

**Subjective symptoms.** None to slight local pain.

**Etiology.** *Mycobacterium tuberculosis*.

**Histopathology.** Tubercle formation with caseation necrosis. Each tubercle consists of nests of epithelioid cells and giant cells surrounded by a zone of lymphocytes and plasma cells.

**Diagnostic aids.** History and physical examination, x-ray of chest, biopsy. Patients in whom these lesions occur should be followed with serial roentgenograms of the chest for a minimum of 18 months to rule out systemic dissemination of the disease from the primary cutaneous lesion.

**Relation to systemic disease.** Tuberculosis is a systemic disease.

**Differential diagnosis.** Initial lesion of sporotrichosis, yphilis, or tularemia.

**Therapy.** Excision or local destruction of the lesion. Specific chemotherapy should be given.

### Tularemia

**Synonym.** Rabbit fever, Francis disease, deer fly fever, Pulvart Valley plague.

**Sites of predilection.** Initial lesion may occur at any site.

**Objective symptoms.** Tularemia is an infectious disease of polymorphic symptomatology. The disease may be ulceroglandular, oculoglandular, pneumonic, typhoidal, meningial, or glandular. Of these cutaneous manifestations are important only in the ulceroglandular type.

After an incubation period of 2 to 9 days, a papule or nodule appears at the site of inoculation. This rapidly ulcerates leaving a tender, firm, and indolent ulcer with a necrotic base which separates, giving a punched-out appearance. This heals with scar formation in about 6 weeks. Lymphangitis spreads from the initial lesion, the regional lymph nodes becoming swollen and painful, gradually becoming fluctuant but rarely breaking down.

Other skin lesions which are probably of toxic origin, are herpetic and erythema multiforme-like eruptions and localized pustules.

**Subjective symptoms.** Headache, chills, generalized malaise, and hyperpyrexia. The local lesions are painful and tender.

*Etiology* *Mycobacterium tuberculosis*

*Histopathology* Numerous discrete tubercles form around the blood vessels in the subcutis. The vessel walls are thickened and the vessels are destroyed. There is marked inflammatory reaction in the subcutaneous tissue.

*Diagnostic aids* History and physical examination biopsy x ray of chest studies for tuberculosis

*Relation to systemic disease* Active pulmonary or visceral tuberculosis may be associated

*Differential diagnosis* Cutis erythema nodosum

*Therapy* Streptomycin or dihydrostreptomycin and/or isoniazid and p-aminosalicylic acid

**Tuberculosis Cutis Luposa**

*Synonym* Lupus vulgaris.

*Sites of predilection* Nose and contiguous portions of the face. Any part of the body may be involved.

*Objective symptoms* This condition begins as one or more small soft yellowish red or reddish brown nodules which gradually increase in number and coalesce forming plaques. If a heavy glass slide (diascope) is pressed onto the lesion the individual translucent nodules with their characteristic reddish brown color may be seen. The lesions may become hypertrophic and local edema may be present. There may be telangiectasia and regional lymphadenopathy. As the central portion of the lesion heals a thin scar resembling crumpled tissue paper or cigarette paper forms. Ulceration and scar tissue may cause severe cosmetic deformity.

*Subjective symptoms* None except for the cosmetic defect.

*Differential diagnosis* Sarcoid discoid lesions of lupus erythematosus epitheliomas.

*Etiology* *Mycobacterium tuberculosis*

*Histopathology* Tubercle formation in the mid and upper cutis, with little tendency to cavitation necrosis. The early lesion have a heavy lymphocytic infiltrate which is replaced by epithelioid cells and giant cells. Dermal appendages are atrophied.

*Relation to systemic disease* Associated with visceral tuberculosis.

*Diagnostic aids* History and physical examination biopsy x ray of chest studies for tuberculosis.

*Therapy* Streptomycin dihydrostreptomycin, isoniazid and p-aminosalicylic acid.

**Tuberculosis Cutis Officiosa**

*Synonym* Tuberculous ulcers.

*Sites of predilection* About the nose mouth, and anus.

*Objective symptoms* This form of cutaneous tuberculosis is associated with the late stages of widespread tuberculosis of the lungs or other internal organs. It begins with the formation of small yellowish nodules which break down to form shallow granulating ulcers. These lesions spread peripherally and show no tendency to heal.

*Subjective symptoms* Some discomfort especially when the tongue is involved.

*Etiology* *Mycobacterium tuberculosis*

*Histopathology* Large numbers of circumscribed tubercles in the corium. Tubercle bacilli are easily demonstrated in the tissue.

*Differential diagnosis* Blastomycosis pyoderma.

*Relation to systemic disease* Related to advanced visceral tuberculosis. The tuberculin test may be negative.

*Diagnostic aids* History and physical examination roentgenograms of chest sputum examination biopsy.

*Therapy* Streptomycin dihydrostreptomycin, isoniazid and p-aminosalicylic acid.

**Tuberculosis Cutis Papulonecrotica**

*Synonym* Folliculitis papulonecrotica tuberculosa.

*Sites of predilection* Trunk extremities, and face.

*Objective symptoms* There are few to numerous discrete deep-seated dull red to purplish rounded sessile papules. The center of each lesion undergoes necrosis. The crusted lesions may persist for years.

*Subjective symptoms* None except the mental distress caused by the unsightly lesions.

*Histopathology* Obliterative endovascularitis in the cutis and subcutis, with coccid tubercle formation and small necrotic crusted ulcers.

*Etiology* *Mycobacterium tuberculosis*

*Differential diagnosis.* Folliculitis, papulopustular secondary syphilis.

*Relation to systemic disease.* Probably a sensitization reaction, associated with visceral tuberculosis.

*Diagnostic aids.* History and physical examination, biopsy studies for systemic tuberculosis.

*Therapy.* Treatment of the underlying condition.

### Tuberculosis Cutis Verrucosa

*Synonym.* Apertoux tubercle, prosector's wart, verruca necrogenica.

*Sites of predilection.* Hands, knees, or other areas subject to trauma.

*Objective symptoms.* This condition begins at the site of an abrasion or wound, with a deep-seated circumscribed, bluish-red or dull red subcutaneous nodule which usually has a verrucous surface. The lesion may become hypertrophic or may involute in the center with an atrophic scar. The lesions vary from 2 mm. to irregular plaques up to 3 cm. in diameter. Pustules may develop within the lesion.

*Subjective symptoms.* Usually none.

*Etiology.* *Mycobacterium tuberculosis*.

*Histopathology.* Marked acanthosis and hyperkeratosis are present and there is a heavy plasma cell and round cell infiltrate in the upper cutis. Tubercle formation may be demonstrated.

*Differential diagnosis.* Blastomycosis, verrucae chronae, pyoderma, granuloma annulare, foreign body granuloma.

*Relation to systemic disease.* Tuberculosis is a systemic disease.

*Diagnostic aids.* Biopsy, history and physical examination, x-ray examination of the chest.

*Therapy.* Surgical excision or destruction by electrocoagulation.

### Tuberculous Complex, Primary

*Synonym.* Tuberculous chancre.

*Sites of predilection.* Face, extremities, and genitalia.

*Objective symptoms.* The lesion may vary from an uncharacteristic spontaneously healing nodule to a large bluish-red nodule or plaque with a central crusted ulcer and rolled border. Regional lymph nodes may become enlarged from 1 to 5

cm. in diameter. These are frequently productive of draining sinuses.

*Subjective symptoms.* None to slight local pain.

*Etiology.* *Mycobacterium tuberculosis*.

*Histopathology.* Tubercle formation with caseation necrosis. Each tubercle consists of nest of epithelioid cells and giant cells surrounded by a zone of lymphocytes and plasma cells.

*Diagnostic aids.* History and physical examination, x-ray of chest, biopsy. Patients in whom these lesions occur should be followed with serial roentgenograms of the chest for a minimum of 18 months to rule out systemic dissemination till the disease from the primary cutaneous lesion.

*Relation to systemic disease.* Tuberculosis is a systemic disease.

*Differential diagnosis.* Initial lesions of sporotrichosis, erythema, or tuberculids.

*Therapy.* Excision or local destruction of the lesion. Specific chemotherapy should be given.

### Tularemia

*Synonym.* Rabbit fever, Francis disease, deer-fly fever, Pahvant Valley plague.

*Sites of predilection.* Initial lesion may occur at any site.

*Objective symptoms.* Tularemia is an infectious disease of polymorphic symptomatology. The disease may be ulceroglandular, oculoglandular, pneumonic, typhoidal, meningel or glandular. Of these cutaneous manifestations are important only in the ulceroglandular type.

After an incubation period of 2 to 9 days, a papule or nodule appears at the site of inoculation. This rapidly ulcerates, leaving a tender firm, and indolent ulcer with a necrotic base which separates, giving a punched-out appearance. This heals with scar formation in about 6 weeks. Lymphangitis spreads from the initial lesion, the regional lymph nodes becoming swollen and painful, gradually becoming fluctuant but rarely breaking down.

Other skin lesions, which are probably of toxic origin, are herpetic and erythema multiforme-like eruptions, and localized pustules.

*Subjective symptoms.* Headache, chills, generalized malaise, and hyperpyrexia. The local lesions are painful and tender.

**Etiology** *Tularemia tularensis* The disease occurs chiefly in Southwestern United States, although sporadic cases have been reported in almost all parts of the country. Lesions develop in people who handle infected small animals such as wild rabbits, squirrels and other game. The disease is also transmitted by the deer fly and some ticks.

**Histopathology** The microscopic changes in the tularemic ulcer are not diagnostic.

**Diagnostic aids** Culture history and physical examination.

**Relation to systemic disease** Tularemia is always a systemic disease.

**Differential diagnosis** Syphilis (primary lesion), sporotrichosis.

**Therapy** Chloramphenicol or one of the tetracyclines, 250 to 500 mg. 4 times daily for 1 to 2 weeks. Streptomycin 2 gm. daily for 1 week.

### Turban Tumor

**Synonym** Cylindroma, nevus epitheliomatosus, induratosus, endothelioma capitis, sarcoma capitis.

**Sites of predilection** Scalp.

**Objective symptoms** This condition is characterized by the development of slow growing, flesh-colored to red tumors which vary from 1 to 8 cm. in diameter. The lesions may cover the entire scalp and smaller lesions may appear on the face, chest and back.

**Subjective symptoms** None.

**Etiology** Unknown. Probably congenital.

**Histopathology** The microscopic picture is characterized by masses of basal cells surrounded by connective tissue membranes. The peripheral cells are palisaded whereas the central portion shows hyaline degeneration and cyst formation.

**Diagnostic aids** Biopsy.

**Relation to systemic disease** None.

**Differential diagnosis** The disease is characteristic in appearance.

**Therapy** Excision.

### Urticaria

**Synonym** Hives, nettle rash.

**Sites of predilection** Any area may be affected.

**Objective symptoms** The primary lesion or wheal is



FIG. 3 Urticaria Dermographism

a whitish, pinkish or reddish, well defined area of localized edema. The lesion assumes many shapes and sizes, varying from a few millimeter in diameter to lesions which involve an entire eyelid, lip or finger (angioneurotic edema, Quincke's edema). They may be nummular, annular or gyrate and may be topped by a vesicle. Pseudopod. may develop. There is no scale present. The lesions are usually transitory but recurrent. Slight trauma may result in wheal formation (dermographia).

**Subjective symptoms** Moderate to intense itching.

**Etiology** Urticaria is an allergic phenomenon in which the shock organ is the small capillary in the cutis. Ingestants such as drugs, shellfish, chocolate, nuts, or spoiled foods may be precipitating factors. Injected substances such as penicillin and tetanus antitoxin are frequent offenders. Focal infections may precipitate urticaria. Psychic stimuli play a definite role. Isolated wheals may result from the bites of insects such as mosquitoes, *Cimex lectularius* (bed bug), sea nettles, fleas and grain-itch mites.

**Histopathology** Edema of connective tissue and fixed tissue cells with cellular infiltration, swelling of the sweat gland cells and deposit of fibrin.

**Diagnostic aids** History and physical examination.

**Relation to systemic disease** Gastrointestinal disturbances and other allergic disturbances frequently accompany urticaria.

**Differential diagnosis.** The disease is characteristic. **Therapy.** Detect and eliminate the offending substance or focal infection. Antihistaminic drugs may be of value. In severe or chronic conditions, or where there is danger of edema of the glottis, cortico-steroid therapy may be indicated.

### Urticaria Papul

**Synonym.** Papular urticaria, urticaria papulosa, heben urticatus, prurigo simplex.

**Sites of predilection.** Generalized.

**Objective symptoms.** This condition usually occurs in childhood as a chronic, recurrent eruption in the spring and summer. The primary lesion is a small urticarial papule or papulovesicle which subsides, leaving a small, firm, persistent papule. Numerous excoriations and blood crusts are noted. Secondary pyogenic infection is frequently present.

**Subjective symptoms.** Moderate to severe itching.

**Etiology.** Unknown. The condition may be caused by insect bites, or food or drug sensitivity.

**Histopathology.** The macroscopic picture is not diagnostic.

**Diagnostic aid.** Examination of house for insect vectors; history and physical examination.

**Relation to systemic disease.** None.

**Differential diagnosis.** Measles, varicella.

**Therapy.** The lying quarters and bed should be thoroughly fumigated with DDT or other insecticide. Dietary allergens such as chocolate, citrus fruits, and tomatoes should be restricted.



FIG 74 Papular urticaria

Local therapy consists of antipruritics and emollient such as calamine lotion or calamine liniment.

### Urticaria Pigmentosa

**Synonym.** Xanthelasmoiden, mastocytosis.

**Sites of predilection.** Trunk, upper extremities, any area of the body may be involved.



FIG 75 Urticaria pigmentosa

**Objective symptoms.** The condition usually develops in early infancy as wheals, papules, and infiltrated macules. Bullous lesions may develop. When the lesions involute, they leave a reddish-brown or yellowish-brown color in the involved area. When irritated, these pigmented lesions urticate. The condition is chronic. The condition may subside at puberty.

**Subjective symptoms.** Itching.

**Etiology.** Unknown.

**Histopathology.** The macroscopic picture is characteristic. Large numbers of mast cells in the cutis distend the papillary bodies. A narrow band of normal connective tissue frequently separates the corium and the epidermis. The collagen bundles are separated.

**Diagnostic aids.** Biopsy, history and physical examination, hemograms, x-ray of the long bones.

**Relation to systemic disease.** The disease is occasionally associated with osteoporosis.

**Differential diagnosis.** The lesions are characteristic in appearance.

**Therapy.** There is no effective therapy.

**Etiology** *L. auretella tularensis*. The disease occurs chiefly in Southwestern United States although sporadic cases have been reported in almost all parts of the country. Lesions develop in people who handle infected small animal such as wild rabbits, squirrels and other game. The disease is also transmitted by the deer fly and some ticks.

**Histopathology** The microscopic changes in the tularemic ulcer are not diagnostic.

**Diagnostic aids** Culture, history and physical examination.

**Relation to systemic disease** Tularemia is always a systemic disease.

**Differential diagnosis** Syphilis (primary lesion), sporotrichosis.

**Therapy** Chloramphenicol or one of the tetracyclines 250 to 500 mg 4 times daily for 1 to 2 weeks. Streptomycin 2 gm daily for 1 week.

### Turban Tumor

**Synonym** *Cylindroma*, *nevus epitheliomatoides*, *lipidomatous endothelioma capitis*, *carcinoma capitis*.

**Sites of predilection** Scalp.

**Objective symptoms** This condition is characterized by the development of slow growing flesh colored to red tumors which vary from 1 to 8 cm in diameter. The lesions may cover the entire scalp and smaller lesions may appear on the face, chest and back.

**Subjective symptoms** None.

**Etiology** Unknown. Probably congenital.

**Histopathology** The microscopic picture is characterized by masses of basal cells, surrounded by connective tissue membranes. The peripheral cells are palisaded whereas the central portion shows hyaline degeneration and cyst formation.

**Diagnostic aids** Biopsy.

**Relation to systemic disease** None.

**Differential diagnosis** The disease is characteristic in appearance.

**Therapy** Excision.

### Urticaria

**Synonym** Hives, nettle rash.

**Sites of predilection.** Any area may be affected.

**Objective symptoms** The primary lesion or wheal is



FIG. 3 Urticaria Dermographism

a whitish pinkish or reddish well defined area of localized edema. The lesions assume many shapes and sizes, varying from a few millimeters in diameter to lesions which involve an entire eyelid, lip or finger (*angioneurotic edema*, *Quincke's edema*). They may be nummular, annular or gyrate and may be topped by a vesicle. Pseudopods may develop. There is no scale present. The lesions are usually transitory but recurrent. Slight trauma may result in wheal formation (dermographism).

**Subjective symptoms** Moderate to intense itching.

**Etiology** Urticaria is an allergic phenomenon in which the shock organ is the small capillary in the cutis. Ingestants such as drugs, shellfish, chocolate, nuts, or spoiled foods may be precipitating factors. Injected substances such as penicillin and tetanus antitoxin are frequent offenders. Focal infections may precipitate urticaria. Psychic stimuli play a definite role. Isolated wheals may result from the bites of insects such as mosquitoes, *Cimex lectularius* (bed-bug), sea nettles, fleas, and grain itch mites.

**Histopathology** Edema of connective tissue and fixed tissue cells with cellular infiltration, swelling of the sweat gland cells and deposit of fibrin.

**Diagnostic aids** History and physical examination.

**Relation to systemic disease** Gastrointestinal disturbances and other allergic disturbances frequently accompany urticaria.

**Differential diagnosis** The disease is characteristic.  
**Therapy** Detect and eliminate the offending substance or focal infection. Antihistaminic drugs may be of value. In severe or chronic conditions, or where there is danger of edema of the glottis, corticosteroid therapy may be indicated.

### Urticaria Papular

**Synonym** Papular urticaria urticaria papulosa lichen urticatus prurigo simplex.

**Sites of predilection** Generalized.

**Objective symptoms.** This condition usually occurs in childhood as a chronic recurrent eruption in the spring and summer. The primary lesion is a small urticarial papule or papulovesicle which subsides leaving a small, firm, persistent papule. Numerous excoriations and blood crusts are noted. Secondary pyogenic infection is frequently present.

**Subjective symptoms.** Moderate to severe itching.

**Etiology** Unknown. The condition may be caused by insect bites or food or drug sensitivity.

**Histopathology** The microscopic picture is not diagnostic.

**Diagnostic aids** Examination of house for insect vectors; history and physical examination.

**Relation to systemic disease** None.

**Differential diagnosis** Scabies; urticella.

**Treatment** The living quarters and bed should be thoroughly fumigated with DDT or other insecticide. Dietary allergens such as chocolate, citrus fruit, and tomatoes should be restricted.



FIG 74 Papular urticaria

Local therapy consists of antipruritics and emollients such as calamine lotion or calamine liniment.

### Urticaria Pigmentosa

**Synonym.** Xanthelasmoiden mastocytosis.

**Sites of predilection** Trunk, upper extremities; any area of the body may be involved.



FIG 75 Urticaria pigmentosa

**Objective symptoms** The condition usually develops in early infancy as wheals, papules, and infiltrated macules. Bullous lesions may develop. When the lesions involute they leave a reddish-brown or yellowish-brown color in the involved area. When irritated, these pigmented lesions urticate. The condition is chronic. The condition may subside at puberty.

**Subjective symptoms.** Itching.

**Etiology** Unknown.

**Histopathology** The microscopic picture is characteristic. Large numbers of mast cells in the cutis distend the papillary bodies. A narrow band of normal connective tissue frequently separates the corium and the epidermis. The collagen bundles are separated.

**Diagnostic aids** Biopsy; history and physical examination; hemograms; x-ray of the long bones.

**Relation to systemic disease** The disease is occasionally associated with osteoporosis.

**Differential diagnosis** The lesions are characteristic in appearance.

**Therapy** There is no effective therapy.



### VERRUCAL (WARTS)

Warts have a common virus etiology. The appearance of the lesion varies according to its location.

#### Verruca Acuminata

*Synonym* Venereal wart, condyloma acuminatum

*Sites of predilection* Genital and perianal region

*Objective symptoms* Verruca acuminatum is a pedunculated or sessile, round or leaf-shaped lesion which may be discrete or form confluent cauliflower-like masses. They remain intact or become eroded, flat and moist and vary from flesh color to grayish brown. They may be slowly growing, persisting for months, or grow to enormous sizes (> cm) or larger within a few weeks.

*Subjective symptoms* None to slight itching



FIG 76 Verruca acuminata of vulva and penis

#### Etiology Virus

*Histopathology* Proliferation of the prickle cell layer with intracellular edema. Numerous mitotic figures are present and there is a multicellular infiltrate. Papillary bodies are elongated.

*Diagnostic aids* Biopsy, dark field to rule out secondary syphilis.

*Relation to systemic disease* None has been established.

*Differential diagnosis* Condyloma latum (secondary syphilis), ecthyma.

*Therapy* Surgical excision or electrodestruction is usually not successful. The lesions may be successfully treated with weekly applications of a 20 per cent solution of podophyllin in euphorbia tincture of benzoin. This usually effective treatment must be carefully performed by the physician himself.

#### Verruca Plana Juvenil

*Synonym* Flat warts of childhood

*Sites of predilection* Face, neck, hands, wrist and knees.

*Objective symptoms* This condition usually occurs in children as numerous, slightly raised, flat topped, circinate, flesh-colored lesions which may be discrete or form irregular groups, with a tendency towards linear arrangement (Koebner phenomenon).



FIG 77 Verruca plana juvenilis

*Subjective symptoms* None

*Etiology* Virus

*Histopathology* The histopathologic picture is similar to that seen in verruca vulgaris, but the changes are not as marked. The stratum corneum is thickened, but in a basket weave pattern.

*Diagnostic aids* Biopsy

*Relation to systemic disease* May be associated with tension states

*Differential diagnosis* Lichen planus, lichen nitidus, molluscum contagiosum

*Therapy* Light desiccation, Vleminkx's solution locally applied, bismuth tablets orally or weekly, injections of bismuth subnitrate

### Verruca Plantaris

*Synonym* Plantar wart

*Sites of predilection* Pressure point on the plantar surfaces

*Objective symptoms.* The lesion may appear as a callus, removal of which reveal a solid central translucent body. In this central area there are usually black dot or points, which are actually hypertrophied papillae filled with small masses of coagulated blood. This portion of the lesion is surrounded by zone of hyperkeratosis. Plantar wart may be single or appear in groups. A large central wart and closely aggregated smaller satellite lesions form an area known as mosaic wart.

*Subjective symptoms* None to severe pain.

*Etiology* Virus

*Histopathology* The microscopic picture is similar to that of verruca vulgaris (q.v.)

*Diagnostic aids* Biopsy

*Relation to systemic disease* None

*Differential diagnosis* Callus or corn

*Therapy* There is no specific form of therapy. Surgical removal of lesions is usually ineffective. Psychotherapy may be effective particularly in small children. Bismuth subnitrate by intra-mucular injection or bismuth by mouth may be of value. Constitutional x-ray therapy is effective in some cases. Heratolytic plaisters may be of value.

### Verruca Vulgaris

*Synonym* Common wart

*Sites of predilection* Hand less frequently the face, lips, eyelids, and other areas

*Objective symptoms.* One or more discrete or confluent lesions may occur. The lesions are grayish, dark brown or grayish-brown round or oval, well defined papules varying from 2 mm. to 1 or more cm. in diameter. The early lesion is usually smooth and shiny but gradually becomes rough and gray. Occasionally on the face or eyelids, they are seen as thread-like projections called *filiform warts*. Pedunculated lesions may develop.

*Subjective symptoms.* None

*Etiology* Virus. These lesions occur frequently in emotionally tense patients.

*Histopathology* Marked acanthosis and hyperkeratosis, with granulating proliferation of the



FIG. 78. Verruca vulgaris

rete ridges, deepest at the center. Parakeratosis in the stratum corneum is evidenced by swollen vacuolated cells which retain their nuclei. Numerous mitotic figures are present.

**Diagnostic aids:** Biopsy.

**Relation to systemic disease:** These lesions frequently occur in emotionally tense patients.

**Differential diagnosis:** Molluscum contagiosum.

**Therapy:** One of the more effective forms of therapy is the careful application of liquid nitrogen to each lesion. Electrodestruction may be effective. Psychotherapy may be effective.

### XANTHOMATOSIS

Hypercholesterolemia without significant elevation of neutral fat in the blood serum is a condition in which nodular xanthomas develop about the joints and along tendon sheaths. Flat tumors occur on the eyelids. These people are subject to atherosclerosis and early coronary occlusion. These cutaneous lesions may also be present in obstruction of the common bile duct, myxedema, hemochromatosis, biliary cirrhosis, and diabetes.

Hyperlipemia without significant elevation of cholesterol (idiopathic hyperlipemia) is associated with eruptive xanthomas of the small papular type generally without xanthelasmas or xanthoma tuberosum. Chronic pancreatitis, nephrosis, and von Cierke's disease are associated with this phenomenon.

### Xanthelasmas

**Synonym:** Xanthoma palpebrarum.

**Sites of predilection:** Eyelids.

**Objective symptoms:** The primary lesion is a slowly growing yellow flat tumor covered by normal epidermis. The lesions may be small and discrete or form large confluent areas. The condition occurs chiefly in persons past middle age. Other types of eruptive xanthomas may be present.

**Subjective symptoms:** None to slight itching.

**Etiology:** The reason for the development of these tumors on the eyelids is unknown.

**Histopathology:** The microscopic changes are similar to those seen in xanthoma tuberosum (q.v.) although there are fewer Touton giant cells.

**Diagnostic aids:** Biopsy, blood studies, history and physical examination.

**Relation to systemic disease:** Hypercholesterolemia occurs frequently in patients with xanthelasmas. The condition may be associated with diabetes.

**Differential diagnosis:** Milium.

**Therapy:** Surgical excision or electrodestruction are accepted methods of local treatment. The lesions frequently respond to applications of phenol or dichloroacetic acid. Intramuscular vitamin B<sub>12</sub> may be of value in reducing the elevation of the lesions. Treatment of the systemic disease is necessary.

### Xanthoma Tuberosum Multiplex

**Synonym:** None.

**Sites of predilection:** Over joints such as the elbows or knees, or over tendon sheaths. Any part of the body may be involved.



Fig. 79 Xanthoma tuberosum multiplex

**Objective symptoms** Usually numerous, flat or rounded, yellowish nodules are seen. These are firm in consistency with telangiectatic vessels noted on the surface. Large lesions may be lobulated, and plaques may form. On the palms the larger creases and lines may be streaked with yellowish deposit.

**Subjective symptoms** None.

**Etiology** Hypercholesterolemia.

**Histopathology** Nets of foam cell and Touton giant cells. Involution is accompanied by fibrosis and formation of cholesterol clefts.

**Diagnostic aids** Biopsy, blood studies, electrocardiogram, history and physical examination.

**Differential diagnosis** Xanthoma tuberosum multiplex may be associated with diabetes (xanthoma diabeticon). Other xanthoma may be associated.

**Inferential diagnosis** The clinical appearance of the cutaneous lesions is characteristic.

**Therapy** Surgical excision. Low fat diet.

### Xeroderma Pigmentosum

**Synonym** Atrophoderma pigmentosum, melanosis lenticularis progressiva, lentigo maligna, angioma pigmentosum et atrophicans.

**Sites of predilection** Exposed surfaces.

**Objective symptoms** This rare, progressive disease usually begins early in life and is characterized first by a mottling of the skin on the areas exposed to sunlight with hyperemia and some roughening of the surface. Within the next two or three years pigmentation appears in the form of small, freckle-like spots, which scale

and appear like flat warts. These lesions become less pronounced in the winter but in warm weather or when exposed to sunlight they become slightly raised. Telangiectasia develops and whitish atrophic spots appear. Angiomas and warty growths occur. The lesions frequently undergo malignant degeneration and become squamous cell carcinomas. Unexposed areas may become involved. The skin becomes thin and parchment-like. Corneal opacities may occur.

**Subjective symptoms** Photophobia, lacrimation, general debility.

**Etiology** Congenital. The condition may be familial in occurrence.

**Histopathology** The changes vary with the stage of the disease and are not diagnostic. They simulate the changes seen in senescent skin and actinic dermatitis, with atrophy of the epidermis and senile elastosis.

**Diagnostic aids** Biopsy, history and physical characteristics.

**Relation to systemic disease** These children usually die at an early age, frequently before the second or third year.

**Differential diagnosis** Chloasma, freckles (early), roentgen dermatitis.

**Therapy** Treatment is of no benefit. Protection from sunlight is essential.

### Yaws

**Synonym** Frambesia.

For a description of this disease see the description of yaws in the chapter on Tropical Diseases.

## Chapter 17

# VESICULAR ERUPTIONS

### **Dermatitis Herpetiformi**

*Synonym* Duhring's disease

*Sites of predilection* Sacral and scapular areas, buttocks, extensor surfaces of extremities, scalp.

*Objective symptoms* This condition may attack any age group. The vesicular type is the most common variety seen. There are usually few to numerous groups of vesicles on an erythematous base. The vesicles are tense and have little tendency to rupture. The groups of lesions may form complete rings or segments of rings. Older lesions which have healed leave residual pigmentation. There are periods of remissions and relapses. The disease usually runs a chronic benign course.

*Subjective symptoms* Constitutional symptoms such as elevation of temperature and generalized malaise may occur. Itching is intense. The patient may also complain of a burning sensation of the skin.

*Etiology* Unknown.

*Histopathology* The vesicles and bullae are subepidermal. Large numbers of eosinophiles are

present in the vesicle cavity. The cellular infiltrate in the cutis consists of eosinophiles with intermingling of mononuclear or polymorphonuclear cell.

*Diagnostic aids.* Biopsy, eosinophiles may range from 10 to 30 per cent of the total white cells.

*Relation to systemic disease.* None.

*Differential diagnosis.* Pemphigus vulgaris, erythema multiforme, bullous scabies, pediculosis corporis.

*Therapy.* Sulfapyridine 2 to 3 gm. daily in divided doses with reduction to a maintenance dose of 0.5 gm. Blood counts and urinalyses must be done at frequent intervals while on this therapy. Pronaectin 3 to 4 gm. in divided daily doses with gradual reduction to 1 to 2 gm. daily. Aloxylon 100 to 150 mg. daily is of value. Locally use colloidal baths and antipruritic lotions or liniments.

### **Dermatitis Venenata**

*Synonym* Contact dermatitis.

*Sites of predilection* Any exposed part of the body may be involved.

*Objective symptoms.* Erythema, edema, vesiculation, serous exudation and secondary pyogenic infection may be present. The vesicles are characteristically arranged in linear groups in cases caused by plant sensitivity or when a sensitizing liquid is applied to the skin and drips or runs on to an adjacent area. When the face is involved moderate to intense edema of the periorbital area usually occurs. After the acute stage subsides one may note scaling in the involved areas.

*Subjective symptoms.* Mild to severe pruritus, burning or even pain may be experienced.



FIG. 80. Dermatitis herpetiformis.



**F 61 Dermatitis venenosa.** A Caused by poison ivy. B Edema of face caused by poison ivy. C Caused by hobble gum. D Characteristic linear groups of vesicles.

**Etiology** Acquired contact sensitivity. See Chart 3 for some of the offending agents. Plants, local medication, creams, lotions, antifungal preparations, and eye drops are also causative agents. Substances or agent handled in industry are other etiologic factors.

**Histopathology** In the epidermis there are varying degrees of intraepidermal vesiculation. There is also intercellular edema with spongiosis. Lymphocytes and polymorphonuclear leukocytes are scattered throughout the involved epidermis with evidence of parakeratosis of the horny layer. In the cutis there is vascular dilatation and mild perivascular infiltrate consisting of leukocytes.

**Diagnosis** Detailed history of contact agents and patch testing with the suspected responsible agent therapy.

**Relation to systemic disease** None.

**Differential diagnosis** Primary irritation, neurodermatitis, atopic eczema, epidermophytosis, dermatitis facitilis (especially if a compensable occupational factor is involved.)

**Therapy** Removal of the offending agent. Locally apply compresses of cold Burow's solution diluted 1:32 cool normal saline or cool boric acid compresses. If large areas of the body are involved, use lukewarm colloidal oatmeal baths or Limit starch baths. Soothing bland lotions, calamine liniment or steroid (hydrocortisone) lotions applied locally to the affected parts give relief. If the involvement is extensive and there is no physical contraindication, systemic steroid therapy for 5 to 7 days in adequate dosage should be administered.

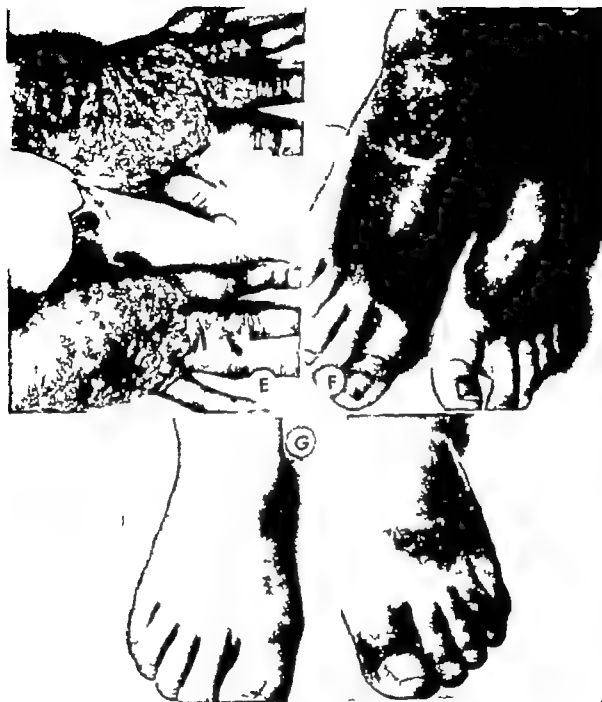


FIG 81 (cont) Dermatitis veneta. *E* Caused by detergents. *F* Caused by shoe dye. *G* Caused by sandal strap.

## CHART 3

## Irritating Agents in Contact Dermatitis

Part of body	Responsible agents	Part of body	Responsible agents
Scalp	Hair lotions, hair tonics, shampoos, pomades, hair dyes, cold-wave chemicals, spray nets, hair lacquers	Neck	Pearl cosmetics for collar jewelry, plastic hair dye from dress, religious medallion, identification tags
Forehead	Rat band, rubber bathing cap, nylon or rubber elastic hair nets, scalp and hair preparations	Axillae	Deodorants, depilatories, perfumes and cologne, dress shields, dye from dress or shirt
Eyes	Nail polish, nail polish remover, eye drops, eye washes, mascara, rubber eyeglass, curler, plants (poison ivy, sumac, etc.)	Trunk	Elastic in bra-let, rubber girdle, underwear, cosmetics
Ears	Earrings, perfume, cosmetics used in the hair, eyeglass frames, telephone receiver, ear drops, ear phones, hearing aids	Genitalia and testicles	Contraceptive creams and jellies, douching agent, condoms, men's shorts, bathing trunks, pajama girdles
Face	Cosmetics such as cleansing creams, hormones, skin lotions, removers, foundation lotions, etc., shaving cream, after-shave lotion, soap, rubber powder puff, rubber masks, pillow, pillow, insecticide sprays, sun protective cream and lotions, photographic materials	Arms and hands	Soaps, detergents, plastic wrist, etc., hand, jewelry, photographic materials, occupational agents and chemicals
Periorbital, lip and nose	Double gaze, tooth past and powder, mouth wash, lipstick, nose drops, pipe, stem, cigarette holder, mouth piece of medical instrument, blister foods	Legs and feet	Shoes (thermoelastic substances), rubber cement, leather shoe polish (etc.) dyed in sock and stockings, depilatory agent for-lined girdles, external use of discards applied locally to the feet for epidermophytosis

## Epidermolysis Bullosa

**Symptoms:** None

**Site:** Produced on feet, legs, and hand and other areas which are frequently traumatized.

**Object symptoms:** Usually divided into 2 types, *epidermolysis bullosa simplex* and *epidermolysis bullosa dystrophica*. *Epidermolysis bullosa simplex* appears shortly after birth with variously sized bullae 1 to 4 cm in diameter following trauma. Lesions occur over the heels, toes, feet, knees, elbows, and hands and are not preceded by erythema. Lesions frequently are seen on the back, chest, abdomen, head, and face. The bullae become turbid then rupture with resulting denuded areas. Epidermal cysts,

resembling colloid milium, develop on the extremities. Extensive scarring does not result in this form as compared to the dystrophic type. The lesions heal and the condition improves at puberty. *Epidermolysis bullosa dystrophica* also appears at or shortly after birth but results in marked atrophy and scarring. The toenails and fingernails may become atrophic and dystrophic changes occur resulting in destruction of the bones of the fingers and toes. In this form the disease lasts throughout life. Patient usually die in childhood.

**Surgical symptoms:** In the dystrophic type walking may be painful because of marked bony changes in the toes, etc.



**Etiology** Unknown. The condition is congenital and may be familial. At times it occurs in several generations of one family.

**Histopathology** Vesicles and bullae are usually subepidermal.

A mild to moderate chronic inflammatory infiltrate is seen in the upper cutis. In the dystrophic form one may note epidermal cysts (milium) in the upper cutis.

**Diagnostic aids** Biopsy.

**Relation to systemic disease** None.

**Differential diagnosis** Pemphigus neonatorum, pemphigus vulgaris, dermatitis herpetiformis, bullous syphilis in infants, factitious dermatitis, erythema multiforme bullosum.

**Therapy** Protect patient from trauma. In the advanced dystrophic type, systemic steroid therapy may be life saving.

### Epidermophytosis

**Synonyms** Athlete's foot, tinea pedis, dermatophytosis.

**Sites of predilection** Feet and hands.

**Objective symptoms** The eruption begins with the development of variously sized (1 to 5 mm) thick-walled discrete and confluent deep-seated vesicles on the feet. The first lesions appear in the interdigital spaces, plantar surfaces of the toes, or the medial aspects of the feet.



FIG. 82 Epidemophytosis

Later because of the wearing of shoes, trauma, or overzealous therapy the areas become macerated. The tissues in the interdigital spaces appear whitish and soggy. Fissures develop with exfoliating margins and secondary pyogenic infection may occur. Eroded areas appear on the medial and lateral surfaces of the feet and the lesions assume an eczematous appearance. Chronic lesions develop in the interdigital spaces as the vesicle fluid is absorbed, resulting in the appearance of hyperkeratotic lesion or scabs. Vesicles appear on and between the fingers and on the palms (epidermophyid). This manifestation is an allergic response to the fungus infection on the feet. It may develop as a response to onychomycosis. Secondary pyogenic infection may complicate the infection on the hands and feet. Cellulitis, lymphangitis and jugular adenopathy may occur.

**Subjective symptoms** Itching. Pain predominates if secondary infection develops.

**Etiology** The initial eruption is caused by one of the superficial dermatophytes. The secondary pyogenic infection is caused by staphylococci or streptococci. Superimposed allergic contact dermatitis may develop because of overzealous therapy. Latent fungus infections may be precipitated into activity by systemic antibiotic therapy.

**Histopathology** Intracellular edema, spongiosis and intraepidermal vesicle formation. Infiltration of leukocytes in the upper cutis. The Hecht-Kiss-McManus stain reveals hyaline in the stratum corneum.

**Diagnostic aids** Direct examination of vesicle top or scales with 20 per cent potassium hydroxide or the ink-potassium hydroxide stain to demonstrate fungi in tissue. Culture on Sabouraud's medium to determine the offending organism.

**Relation to systemic disease** None.

**Differential diagnosis** Contact dermatitis, dyshidrosis, pustular psoriasis, pustular bacterid, pyoderma.

**Therapy** In the absence of secondary infection establish good hygiene. Following the bath rinse the feet in alcohol and thoroughly dry. Apply 5 per cent salicylic acid ointment, 1 per cent salicylic acid in 0. per cent alcohol or half

strength Whitfield's ointment. Use a dusting powder between the toes and in the shoes. Change the socks twice daily and do not wear the same pair of shoes two days in succession. Do not attempt to sterilize the shoes. In warm weather wear perforated leather shoes or sandals. If possible avoid rubber shoes or synthetic soles. If secondary infection develops, the patient should be put at rest and should use hot soaks of boric acid solution for half-hour periods several times daily followed by the local application of an antibiotic ointment. If cellulitis or lymphangitis is present systemic antibiotic therapy will be necessary. Conventional x-ray or Grenz-ray therapy is of no value in superficial fungus infections.

Crisocephalum, administered systemically is of benefit.

### Erythema Multiforme Bullosum

**Synonyms:** Herpes-Johnson disease; ectodermosis; erythema planiformis.

**Sites of predilection:** Lips, tongue, mouth, genitalia, dorsal surfaces of the hands and feet, forearms, and legs.

**Objective symptoms:** Various sized tense vesicles measuring 1 mm to 3 mm, arranged in an erythematous base. Rings within rings or circles within circles (iris or target lesions) may develop. These iris lesions are commonly seen on the palms and soles. Erosions with streaks of epithelium occur in the mouth and when the lips are involved, crust formation may be marked. Bullous lesions measuring 1 cm. or more in diameter may develop and leave residual pigmentation after involution. This invariably occurs in fixed drug eruptions. The condition is characterized by frequent relapses.

**Subjective symptoms:** Night to moderate itching and burning may be present. When the oral cavity is involved there is usually marked discomfort in chewing and swallowing.

**Etiology:** May be caused by a focus of infection, rheumatic fever, or drug sensitivity. The Hebra type is seasonal in occurrence.

**Histopathology:** Subepidermal vesicle formation with a perivascular inflammatory infiltrate in the cutis.

**Diagnostic aids:** Biopsy, history and physical examination.

**Relation to systemic disease:** May be evidence of an allergic reaction to penicillin, vaccines, or other drugs. The condition occurs in association with rheumatic fever and other infectious diseases. Without adequate treatment this condition may be fatal.

**Differential diagnosis:** Pemphigus vulgaris, dermatitis herpetiformis.

**Therapy:** Search for and eliminate the cause. Systemic steroid therapy is necessary when extensive involvement occurs. These drugs must be administered in adequate dosage in this potentially serious disease.

### Grain Itch

**Synonyms:** Straw Itch

**Sites of predilection:** Trunk and neck. Rarely occurs on face, hands, or feet.

**Objective symptoms:** The primary lesion is an erythematous wheal which has a small central vesicle (1 to 3 mm.). This central vesicle may become a pustule. Secondary pyogenic infection may develop.

**Subjective symptoms:** Moderate to severe itching, which is worse at night. Mild to slight temperature elevation may be present.

**Etiology:** *Pediculoides erinaceus* (grain itch mite). Condition develops in persons who handle straw.

**Histopathology:** Intraepidermal vesicle. Edema of the cutis with an infiltrate of leukocytes and eosinophiles. Vascular dilatation also present. Parasites are not found.

**Diagnostic aids:** History and physical examination, biopsy.

**Relation to systemic disease:** None.

**Therapy:** Intrapuritic lotions, liniments, or creams. Removal of contaminated material from contact.

### Herpes Gestationis

**Synonyms:** Dermatitis herpetiformis associated with pregnancy.

**Sites of predilection:** Trunk and extremities.

**Objective symptoms:** The symptoms are identical with those of dermatitis herpetiformis. The

condition usually begins in the first trimester of pregnancy and is persistent through the early postpartum period. This dermatosis tends to recur with succeeding pregnancies. The symptoms may be severe enough to justify therapeutic interruption of the pregnancy.

*Subjective symptoms* Intractable itching

*Etiology* Unknown

*Histopathology* See dermatitis herpetiformis.

*Diagnostic aids* See dermatitis herpetiformis.

*Relation to systemic disease* Occurs in association with pregnancy.

*Differential diagnosis* See dermatitis herpetiformis.

*Therapy* This condition is benefitted by systemic steroid therapy. Therapeutic abortion may be indicated.

### Herpes Simplex

*Synonym* Herpes labialis; fever blister; cold sores; herpes febrilis. On the genitalia, these lesions are called herpes progenitalis.

*Sites of predilection* Lips, nose, chin, mucous membranes, and other areas. May occur on the glans penis, under surface of the prepuce, and the labia minora.

*Objective symptoms* Grouped small vesicles on an erythematous base. The individual vesicles range from 1 to 3 mm. in diameter. The vesicle fluid is at first serous, but after a day or two be-

comes purulent. The lesions form a serous crust after a few days and usually heal without formation of scars. Submental adenopathy may occur when the lesions occur on the lower lip or regional adenopathy may accompany the lesions at other sites.

*Subjective symptoms* Tingling, burning, and itching may precede the eruption. Slight fever and headache may be present during the height of the process.

*Etiology* Caused by a filterable virus. Since the virus lives on the skin and in the mouth it may become activated or "triggered" by actinic rays, cold febrile illnesses, gastrointestinal disturbances, sensitivity to certain foods (e.g. hot mustard) and menstruation. These lesions may accompany Hodgkin's disease and other lymphoblastomas.

*Histopathology* Multilocular intra-epidermal vesicles with degeneration of epidermal cells, giving rise to reticular degeneration. In the cuts there is an infiltrate of leukocytes.

*Diagnostic aids* Biopsy if necessary.

*Relation to systemic disease* At times occurs in acute febrile illnesses or toxic states when the temperature remains elevated for several days or weeks.

*Differential diagnosis* Impetigo contagiosa; chancre of lips or genitalia; chancre; contact dermatitis; herpes zoster.

*Therapy* During the acute vesicular stage local use of drying lotions or spirit of camphor locally may be of value. During the crusted stage apply an antibiotic ointment twice daily to the area. For the recurrent type, repeated smallpox vaccination every week for five successive times has been of value as a preventive measure in some cases. If the sun or cold are "trigger" factors the patient should be protected against exposure.

### Herpes Zoster

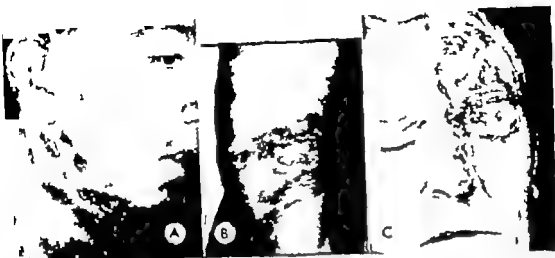
*Synonym* Shingles; zona; zoster.

*Sites of predilection* The eruption follows a unilateral course along a nerve trunk such as an intercostal nerve, ophthalmic branch of the trigeminal nerve, sciatic nerve, etc.

*Objective symptoms* Grouped vesicles on an ery-



FIG. 82 Herpes simplex.



F 84 A and B Herpes zoster C Herpes zoster ophthalmicus

thematous and edematous base follow the course of the involved nerve. The tense deep-seated vesicles measure 2 to 6 mm. in diameter. The eruption is unilateral. After 10 to 14 days from the onset the vesicles dry and become crusted. In some instances the lesions may become necrotic or gangrenous. Residual atrophy may develop. A generalized form of herpes zoster (varicelliform) may occur at times with certain systemic diseases such as the lymphomas.

**Subjective symptoms.** Numbness may be present over the area for several days before the vesicles appear. The pain may be severe and if the area involved is over the abdomen an erroneous diagnosis of acute appendicitis, cholecystitis, or renal colic may be made. Postherpetic pain over the involved region may remain for many months after the eruption has completely cleared. This is especially true in elderly patients.

**Etiology.** A virus identical with the virus causative of varicella. Some authorities believe that herpes zoster is actually an atypical form of varicella in the adult.

**Histopathology.** Intra-epidermal unilocular vesicles which contain leukocytes and altered epithelial cells showing balloon cell degeneration. Within these balloon cells one sees eosinophilic inclusion bodies known as Lipschütz bodies. Dilated

blood vessels are present in the cutis with an inflammatory infiltrate consisting of lymphocytes and scattered polymorphonuclear leukocytes.

#### *Diagnostic aids* Biopsy

**Relation to systemic disease.** The rare generalized form may occur in association with lymphoblastomas such as leukemia, Hodgkin's disease, etc. Herpes zoster may be associated with chronic infectious diseases such as malaria, neurosyphilis, multiple sclerosis, leprosy or tuberculosis.

**Differential diagnosis.** Herpes simplex, eczema, dermatitis herpetiformis, varicella.

**Therapy.** No specific therapy is available for this self-limited disease. Aspirin and codeine may be given for pain. In the early course of the disease, daily injections of procaine may be of value in relieving symptoms. Injections of vitamin B<sub>1</sub> intramuscularly in dosages of 1000 mg. 3 times a week, may be of some value. Locally drying lotions and occlusive dressings to the affected part are helpful. If eye involvement occurs the patient should be under the care and supervision of an ophthalmologist.

#### **Hidrocystoma**

**Synonym.** Xanthoma

**Sites of predilection.** Face, especially prominent on the forehead, infra-orbital and cheek areas.

**Objective symptoms** Single or multiple discrete non-inflammatory whitish or bluish deep-seated vesicles. These tense vesicles do not readily rupture.

**Subjective symptoms** None

**Etiology** Occurs in middle aged women who work in hot environments and perspire freely.

**Histopathology** There are large dilated cystic cavities lined by two or more layers of epithelial cells in the cutis. The cysts develop as a result of sweat retention in the ducts of the eccrine sweat glands.

**Diagnostic aids** Biopsy

**Relation to systemic disease** None

**Differential diagnosis** Milium crystallinum (milia) syringoma

**Therapy** Puncture each lesion with a sharp needle to release the fluid.

### Impetigo Contagiosa

**Synonym** Impetigo impetigo vulgaris

**Sites of predilection** Face especially about the mouth ears and nose

**Objective symptoms** Begins as a flaccid or tense well defined vesicle originating on normal skin or on an erythematous base. The vesicle is filled with clear yellowish fluid which becomes pustular. After a few days the lesion is covered with a thick yellow ("honey") crust. The lesions may become confluent and spread with the de-

velopment of more lesions because of the contagious nature and autoinoculability of the disease. Annular lesions may occur.

### Other forms of impetigo

1 *Boeckhart's impetigo* is follicular impetigo which is usually pustular from its onset. The superficial small pustules occur at the orifices of the pilosebaceous apparatus. This variety is caused by a staphylococcus and is found as a complicating feature of some preexisting dermatoses. Sites of involvement are scalp, thigh and forearms.

2 *Bullous impetigo* (pemphigus neonatorum) occurs in infants, with formation of bullae on the neck, trunk and buttocks. Large areas of the body may be involved and systemic toxic complications such as septicemia may develop.

**Subjective symptoms.** Itching and burning.

**Etiology** *Staphylococcus aureus* and *albus*, and *Streptococcus pyogenes*. Usually spread in schools and camps by direct contact with towels, etc. May also occur secondary to some other underlying dermatosis such as pediculosis capitis, pediculosis pubis, scabies and other pruritic conditions.

**Histopathology** A subcorneal vesicle containing polymorphonuclear leukocytes, lymphocytes, fibrin and bacteria. The upper third of the cutis contains an inflammatory infiltrate consisting



FIG. 85 Impetigo contagiosa

primarily of polymorphonuclear leukocytes and lymphocytes.

*Diagnostic aids.* Cultures. sensitivity tests.

*Relation to systemic disease.* Acute nephritis may be seen as a complication of impetigo contagiosa. Impetigo in the newborn may cause fatal bacteremia.

*Differential diagnosis.* Herpes simplex contact dermatitis pemphigus vulgaris varicella tinea sycois. The patient should be isolated until the lesions have completely healed.

*Therapy.* In the localized form, remove the crusts with warm boric acid or normal saline compresses, and follow with applications of an antibiotic ointment. Avoid penicillin ointment because of its local and systemic sensitizing effect. If the eruption is extensive, systemic antibiotic therapy may be necessary. Cultures and sensitivity test should be done if the eruption does not respond. Towels, clothing, pillow cases, et al should be changed frequently because of the autoinoculability of the disease.

Isolation precautions should be observed.

### Infection Eczematoid Dermatitis

*Synonym.* Eczema d'origine

*Sites of predilection.* May occur at any site.

*Objective symptoms.* Circumscribed confluent areas of erythema and edema with vesiculation, pustulation, scaling and crusting, surrounding a draining sinus fistulous tract or an infected ear canal. The plaques enlarge by peripheral extension. Satellite lymphadenopathy may be present.

*Subjective symptoms.* Moderate to severe itching.

*Etiology.* A localized allergic phenomenon associated with a draining staphylococcal infection, such as otitis media chronica, decubitus infected ulcer, etc.

*Histopathology.* Abscess formation intraepidermal vesicles and abscess formation edema of the prickle cell layer and presence of bacteria scattered throughout the epidermis.

*Diagnostic aids.* Culture of exudation from originating focus.

*Relation to systemic disease.* Otitis media cervical cancer postoperative fistula, etc.



Fig. 86 Infectious eczematoid dermatitis

*Therapy.* The localized areas may be treated with warm normal saline or boric acid compresses followed by steroid-antibiotic ointment or lotion. Treat the underlying infection with the appropriate antibiotic.

### Lymphangioma Circumscriptum

*Synonym.* Naevus

*Sites of predilection.* May occur on any part of the body.

*Objective symptoms.* Groups of deep-seated thick walled vessels develop in infancy or early childhood. The tense vesicles are thick walled and contain a colorless or pinkish fluid (lymph). The lesions become crusted or hyperkeratotic, eventually resembling verrucae. Involvement of the tongue produces macroglossia.

*Subjective symptoms.* None.

*Etiology.* Congenital.

*Histopathology.* In the papillary and subpapillary layers of the cutis there are large numbers of

**Objective symptoms** Single or multiple discrete non-inflammatory whitish or bluish deep-seated vesicles. These tense vesicles do not readily rupture

**Subjective symptoms** None

**Etiology** Occurs in middle-aged women who work in hot environments and perspire freely

**Histopathology** There are large dilated cystic cavities lined by two or more layers of epithelial cells in the cutis. The cysts develop as a result of sweat retention in the ducts of the eccrine sweat glands

**Diagnostic aids** Biopsy

**Relation to systemic disease** None

**Differential diagnosis** Milium crystallum (cystic acne), syringoma

**Therapy** Puncture each lesion with a sharp needle to release the fluid

### Impetigo Contagiosa

**Synonym** Impetigo impetigo vulgaris

**Sites of predilection** Face especially about the mouth, ears, and nose

**Objective symptoms** Begins as a flaccid or tense well defined vesicle originating on normal skin or on an erythematous base. The vesicle is filled with clear yellowish fluid which becomes pustular. After a few days the lesion is covered with a thick yellow (honey) crust. The lesions may become confluent and spread with the de-

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**Subjective symptoms** Itching and burning

**Etiology** *Staphylococcus aureus* and *albus* and

*Streptococcus pyogenes*. Usually spread in schools and camps by direct contact with towels, etc. May also occur secondary to some other underlying dermatosis such as pediculosis capiti, pediculosis pubis, scabies and other pruritic conditions.

**Histopathology** A subcorneal vesicle containing polymorphonuclear leukocytes, lymphocytes, fibrin and bacteria. The upper third of the cutis contains an inflammatory infiltrate consisting



FIG. 53. Impetigo contagiosa

*Differential diagnosis* Pemphigus vulgaris erythema multiforme bullousum

*Therapy* None specific. Systemic and local steroid therapy for the ocular involvement may be of some value

### Pemphigoid Bullous

*Synonym* None

*Sites of predilection* Axillae, groins, and flexor surfaces of forearms. May involve other areas of skin as well.

*Objective symptoms* Tense bullae of considerable size which do not break as easily as the blebs of pemphigus vulgaris. The denuded areas resulting from the rupture of some of the bullae heal rapidly and do not spread. There may be erythematous patches where the bullae become confluent forming a serpiginous configuration or the blebs may be grouped as in dermatitis herpetiformis. Mucous membrane involvement may occur but the blisters heal rapidly. The condition occurs in adults 60 years of age or older but may develop in young children. The disease may persist for months to many years with remissions and exacerbations.

*Subjective symptoms* Itching is usually moderate to severe but may be entirely absent. In older patients the general health may be impaired.

*Etiology* Unknown.

*Histopathology* The picture is similar to that of dermatitis herpetiformis. Bullous pemphigoid may be the bullous form of dermatitis herpetiformis.

*Diagnostic aids.* Biopsy

*Relation to systemic disease* None

*Differential diagnosis* Pemphigus vulgaris dermatitis herpetiformis erythema multiforme bullousum

*Therapy* Sulfapyridine may be of value but is not effective as when used in dermatitis herpetiformis. Systemic steroid therapy may also be useful.

### Pemphigus Chronic Benign Familial

*Synonym* Hailey and Hailey' disease

*Sites of predilection* Neck, axillae and crural area

*Objective symptoms* Vesicles and bullae, with

crusted erosions are seen over the affected areas. The lesions may spread peripherally producing a circinate or serpiginous border. There are relapses and remissions. The condition runs a chronic course.

*Subjective symptoms* Mild to moderate itching. Symptoms may be more severe in warm, humid weather.

*Etiology* Unknown.

*Histopathology* Large bullae develop separating the basal layer from the rest of the epidermis. Acantholytic cells, some of which show keratinization, are present. Dyskeratosis occurs occasionally. Corps rounded are not a constant feature.

*Diagnostic aids.* Biopsy

*Relation to systemic disease* None

*Differential diagnosis* Contact dermatitis intertrigo dermatitis herpetiformis pemphigus vulgaris.

*Therapy* Local application of salicylic or boric acid compresses followed by a steroid lotion or ointment may be of value.

### Pemphigus Vulgaris

*Synonym* Pemphigus vulgaris malignus.

*Sites of predilection* Mucous membranes, scalp, face, neck, extremities and trunk.

*Objective symptoms.* The bullae are tense at first but become flaccid as they increase in size. Bullae may arise from normal appearing skin or on an erythematous base. The fluid content is serous at first but may become purulent or hemorrhagic. The flaccid blisters rupture easily to form denuded lesions which involve large areas. The lips, buccal mucosa, tongue, palate, pharynx, and larynx are involved. The mucous membranes of the conjunctivae, nostrils, vulva, and anal region may also be affected. The Nikolsky sign is elicited by making pressure with the finger over so-called normal skin and rubbing off the epidermis.

*Subjective symptoms.* The eruption is preceded or accompanied by malaise, chills and fever slight to moderate itching and burning, and soreness of the involved areas. When lesions are present in the oral cavity swallowing and talking may become difficult. The condition occurs most



dilated lymphatics or cysts lined by a single layer of endothelial cells. The cysts contain coagulated lymphocytes.

*Diagnostic aids* Biopsy

*Relation to systemic disease* None

*Differential diagnosis* Herpes simplex herpes zoster dermatitis venenata

*Therapy* Surgical excision desiccation or carbon dioxide snow are of value in the destruction of small lesions. Conventional x-ray and radium therapy are curative.

### **Miliaria Crystallina**

*Synonym* Sudamina

*Sites of predilection* Neck, trunk and extremities.

*Objective symptoms* Discrete pin point to pin head size translucent thin walled vesicles containing a droplet of clear sweat. They develop and involute in a short period of time leaving a slight superficial scale.

*Subjective symptoms* Mildly pruritic

*Etiology* Result from excessive sweating associated with fever, steam baths, exercise, etc.

*Histopathology* The superficial vesicles are situated in the stratum corneum in direct communication with the sweat ducts. The orifices of the ducts are plugged.

*Diagnostic aids* Biopsy, history and physical examination.

*Relation to systemic disease* May be associated with any disease which causes fever. Drug sensitivity may produce the eruption.

*Differential diagnosis* Varicella, miliaria rubra.

*Therapy* Critical baths, calamine lotion, dusting powders. Place patient in a cool well ventilated room.

### **Miliaria Rubra**

*Synonym* prickly heat, heat rash, summer rash.

*Sites of predilection* Neck, trunk and extremities.

*Objective symptoms* Numerous erythematous pin point to pin head sized discrete closely aggregated vesicles, vesicopapules and papules.

*Subjective symptoms* Stinging, prickling, itching or burning in the affected areas.

*Etiology* High temperature and humidity associated with increased or profuse perspiration. Possibly associated with food allergies.

*Histopathology* Keratin plugs in the sweat duct orifices and distention of the sweat ducts in the epidermis and upper cutis. A lymphocytic infiltrate surrounds the sweat ducts in the upper cutis.

*Diagnostic aids* Biopsy

*Relation to systemic disease* None

*Differential diagnosis* Urticaria, varicella, eczema, dermatitis venenata.

*Therapy* Remove to cool environment. Wear light loosely fitting clothing. Avoid fruits, alcoholic beverages, highly seasoned foods. Apply talc, calamine lotion or other cooling lotions. Colloidal baths are of value.

### **Pemphigoid Benign Mucous Membrane**

*Synonym* Pemphigus of the mucous membranes, ocular pemphigus, pemphigus conjunctivae.

*Sites of predilection* Conjunctivae, buccal mucosa, pharynx, larynx, esophagus, nasal mucosa, penis, vulva and anus. In 50 per cent of the patients the skin is also involved.

*Objective symptoms* Lesions begin on the buccal mucosa as vesicles and result in denuded area. The lips are rarely involved. Scars form in the mouth and involvement of the larynx results in hoarseness. When adhesions occur in the esophagus, strictures and stenosis develop with impairment in eating and swallowing. Adhesions may also complicate genital involvement. There may be scarring and shrinking of the conjunctivae resulting in corneal damage with ulceration and opacities.

*Subjective symptoms* Stinging of the conjunctivae and corneal opacities may lead to partial blindness. Burning, smarting and photophobia may be an early complaint when the eyes are involved. Hoarseness and difficulty in swallowing are experienced when the mouth, throat, larynx and esophagus are involved.

*Etiology* Unknown.

*Histopathology* Subepidermal bulla. There is absence of acantholysis in the epidermis. Marked inflammatory infiltration is present with subsequent fibrosis of the outer dermis.

*Diagnostic aids* Biopsy

*Relation to systemic disease* None

voiced in this type. The course of the disease is the same as that of pemphigus vulgaris.

*Pemphigus foliaceus* The lesions are superficial bullae which leave shallow erosions. There are also areas of erythema, scaling, crusting and crusting. The denuded areas are more superficial than those of pemphigus vulgaris. At first the eruption may be limited to the scalp face and portions of the back and chest but as the condition progresses most of the body surface is involved. In this type of pemphigus the patients are usually free of oral lesions. The disease runs a chronic course for a period of many years.

3. *Pemphigus erythematosus* (Seabear Lake syndrome) This variant of pemphigus may start with a butterfly lesion on the face and resembles lupus erythematosus. The disease may eventuate into pemphigus vulgaris. The bullae are flaccid and, when they become crusted and impetiginized resemble seborrheic dermatitis. The condition usually runs a chronic but relatively benign course.

### Scabies

*Synonym* "The Itch"

*Sites of predilection.* Interdigital spaces of the fingers flexor surfaces of the wrists and forearms, the elbows, anterior folds of the axillae, the breasts, buttocks, male genitalia, and the abdomen. Rarely occurs on the face. May occur on the feet in infants.

*Objective symptoms.* Scabies, a rare contagious disease has almost become extinct in the past 3 years. The initial lesion is an irregular eczema-like area from 1 to 2 mm. in diameter. Trav-

elling the center of some of these lesions there is a black dotted line or "burrow" composed of the eggs and fecal matter of the parasite. Intact vesicles are found only on the palms and between the fingers. Papules, pustules, crusts, and excoriations occur elsewhere on the body. Secondary pyogenic infection frequently occurs.

*Subjective symptoms.* Severe itching, especially at night when the patient is in bed.

*Etiology.* *Sarcoptes scabiei* The female burrows into the skin especially at night where she deposits eggs and feces.

*Histopathology.* The burrow is located in the horny layer and the head of the mite is buried in the prickle cell layer. The vesicles occur because of edema of the prickle cell layer.

*Diagnostic aids.* Confirmation of diagnosis by microscopic examination of vesicle contents for presence of parasite.

*Relation to systemic disease.* None.

*Differential diagnosis.* Papular urticaria, contact dermatitis, and reactions atopic dermatitis.

### Therapy

1. Isolate the patient. Treat all infected contacts.

2. Bathe with soap and water and pat the skin dry.

3. Apply 20 per cent benzyl benzoate emulsion from the neck to the toes twice daily for 3 days.

4. Boil all clothing and bed clothing in hot soapy water.

Alternate effective medications are 5 to 15 per cent sulfur in petrolatum or 5 per cent each of balsam of Peru and sulfur in petrolatum.

### Varicella

*Synonym* Chicken pox

*Sites of predilection.* Face, trunk and scalp.

*Objective symptoms.* The condition, which has an acute onset, is initiated with a macular eruption which rapidly becomes papular and then vesicular in a 24-hour period. Discrete scattered vesicles measuring 2 to 4 mm. in diameter first appear on the face. The vesicles are thin-walled, translucent and later become turbid. They have the so-called dew-drop ap-



F 69 Scabies



FIG 87 Pemphigus vulgaris

commonly in the middle-aged group and is somewhat more prevalent in the Jewish race

**Etiology** Unknown

**Histopathology** Tzanck cells are present in a unilocular intra-epidermal vesicle. There is little or no inflammatory reaction in the cutis.

**Diagnostic aids** Biopsy of a fresh vesicle or bullous lesion, preferably one not over 24 hours old.

**Relation to systemic disease** Pemphigus vulgaris is a serious systemic illness.

**Differential diagnosis** Erythema multiforme, bullous dermatitis herpetiformis (Dühring's disease), bullous impetigo, contagious.

**Therapy** Systemic steroid therapy is a lifesaving measure in this disease and without its use the prognosis is grim. The drug must be given in adequate dose and with utmost care and

supervision. In addition to systemic steroid therapy the general health of the patient must be maintained by good nursing care, high caloric diet, multivitamin therapy, blood transfusions, etc. Use 1 per cent phenol crystals in olive oil or cottonseed oil locally. Emollient baths may be comforting.

### Other Varieties of Pemphigus

1 *Pemphigus vegetans* This is a variant of pemphigus vulgaris which at first cannot be differentiated from it. As the disease progresses the denuded areas develop vegetations or papillomatous, hypertrophic surfaces covered with pustules. The mucous membranes are also in-



FIG 89 Pemphigus foliaceus

involved in this type. The course of the disease is the same as that of pemphigus vulgaris.

2. *Pemphigus foliaceus*. The lesions are superficial bullae which leave shallow erosions. There are also areas of erythema, scaling, crusting and crusting. The denuded areas are more superficial than those of pemphigus vulgaris. At first the eruption may be limited to the scalp, face and portions of the back and chest but, as the condition progresses, most of the body surface is involved. In this type of pemphigus the patients are usually free of oral lesions. The disease runs a chronic course for a period of many years.

3. *Pemphigus erythematosus* (Spear-Lieber syndrome). This variant of pemphigus may start with a butterfly lesion on the face and resembles lichen erythematosus. The disease may eventuate into pemphigus vulgaris. The bullae are flaccid and, when they become crusted and unperforated, resemble seborrheic dermatitis. The condition usually runs a chronic but relatively benign course.

#### Scabies

**Synonym** The itch

**Sites of predilection** Interdigital spaces of the fingers, flexor surfaces of the arms and forearms, the elbows, anterior folds of the axillae, the breasts, buttocks, male genitalia, and the abdomen. Rarely occurs on the face. May occur on the feet in infants.

**Objective symptoms** Resbur, a rare contagious disease, has almost become extinct in the past 5 years. The initial lesion is an irregular vesicle which varies from 1 to 5 mm in diameter. Trav-

elling the center of some of these lesions there is a black dotted line or "burrow" composed of the eggs and fecal matter of the parasite. In fact vesicles are found only on the palms and between the fingers. Papules, pustules, crusts, and excoriations occur elsewhere on the body. Secondary pyogenic infection frequently occurs.

**Subjective symptoms** Severe itching, especially at night when the patient is in bed.

**Etiology** *Sarcoptes scabiei*. The female burrows into the skin, especially at night where she deposits eggs and feces.

**Histopathology** The burrow is located in the horny layer and the head of the mite is buried in the prickle cell layer. The vesicles occur because of edema of the prickle cell layer.

**Diagnosis and** Confirmation of diagnosis by microscopic examination of vesicle contents for presence of parasite.

**Relation to systemic disease** None.

**Differential diagnosis** Papular urticaria, contact dermatitis, "id" reaction, atopic dermatitis.

#### Therapy

1. Isolate the patient. Treat all infected contacts.

2. Bathe with soap and water and pat the skin dry.

3. Apply 20 per cent benzyl benzoate emulsion from the neck to the toes twice daily for 3 days.

4. Boil all clothing and bed clothing in hot soapy water.

Alternate effective medications are 5 to 15 per cent sulfur in petrolatum or 3 per cent each of balsam of Peru and sulfur in petrolatum.

#### Vicella

**Synonym** Chicken pox.

**Sites of predilection** Face, trunk, and scalp.

**Objective symptoms** The condition, which has an acute onset, is initiated with a macular eruption which rapidly becomes papular and then vesicular in a 4 hour period. Discrete scattered vesicles measuring 2 to 4 mm in diameter first appear on the face. The vesicles are thin-walled translucent and later become turbid. They have the so-called "dew-drop" ap-



F. 89 Penber

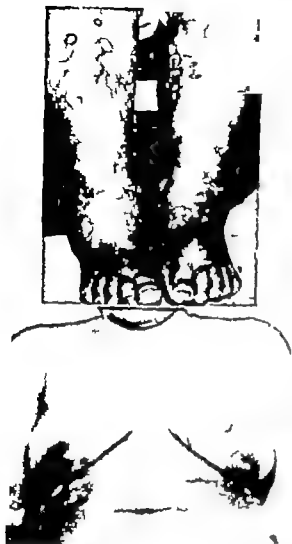


FIG. 8. Pemphigus vulgaris.

supervision. In addition to systemic steroid therapy the general health of the patient must be maintained by good nursing care, high caloric diet, multivitamin therapy, blood transfusions, etc. Use 1 per cent phenol crystals in olive oil or cottonseed oil locally. Emollient baths may be comforting.

### Other Varieties of Pemphigus

1. *Pemphigus vegetans*. This is a variant of pemphigus vulgaris which at first cannot be differentiated from it. As the disease progresses the denuded areas develop vegetations or papillomatous hypertrophic surfaces covered with pustules. The mucous membranes are also in-



FIG. 8A. Pemphigus foliaceus.

commonly in the middle-aged group and is somewhat more prevalent in the Jewish race.

#### Etiology Unknown

**Histopathology.** Tzanck cells are present in a unicellular intra-epidermal vesicle. There is little or no inflammatory reaction in the cutis.

**Diagnostic aid.** Biopsy of a fresh vesicle or bullous lesion, preferably one not over 24 hours old.

**Relation to systemic disease.** Pemphigus vulgaris is a serious systemic illness.

**Differential diagnosis.** Erythema multiforme, bullous dermatitis herpetiformis (Duhring's disease), bullous impetigo, contagious.

**Therapy.** Systemic steroid therapy is a lifesaving measure in this disease and without its use the prognosis is grave. The drug must be given in adequate dosage and with utmost care and

voiced in this type. The course of the disease is the same as that of pemphigus vulgaris.

2. *Pemphigus foliaceus*. The lesions are superficial bullae which leave shallow erosions. There are also areas of erythema, scaling, oozing and crusting. The denuded areas are more superficial than those of pemphigus vulgaris. At first the eruption may be limited to the scalp, face and portions of the back and chest but as the condition progresses most of the body surface is involved. In this type of pemphigus the patients are usually free of oral lesions. The disease runs a chronic course for a period of many years.

3. *Pemphigus erythematodes* (Senechal's syndrome). This variant of pemphigus may start with a butterfly lesion on the face and resembles lupo erythematosus. The disease may eventually hit pemphigus vulgaris. The bullae are flaccid and, when they become crusted and impetiginized, resemble seborrheic dermatitis. The condition usually runs a chronic but relatively benign course.

#### Scabies

*Synonym*. "The itch."

*Sites of predilection*. Interdigital spaces of the fingers, flexor surfaces of the wrists and forearms, the axillae, anterior folds of the axillae, the breast, buttocks, male genitalia, and the abdomen. Rarely occurs on the face. May occur on the feet in infants.

*Objective symptoms*. Scabies, a rare contagious disease, has almost become extinct in the past 5 years. The initial lesion is an irregular vesicle which varies from 1 to 5 mm. in diameter. Trav-

ersing the center of some of these lesions there is a black dotted line or "burrow" composed of the eggs and fecal matter of the parasite. In fact vesicles are found only on the palms and between the fingers. Papules, pustules, crusts, and excoriations occur elsewhere on the body. Secondary pyogenic infection frequently occurs.

*Subjective symptoms*. Severe itching, especially at night, when the patient is in bed.

*Etiology*. *Sarcoptes scabiei*. The female burrows into the skin especially at night where she deposits eggs and feces.

*Histopathology*. The burrow is located in the horny layer and the head of the mite is buried in the prickle cell layer. The vesicles occur because of edema of the prickle cell layer.

*Diagnostic aids*. Confirmation of diagnosis by microscopic examination of vesicle contents for presence of parasite.

*Relation to systemic disease*. None.

*Differential diagnosis*. Papular urticaria, contact dermatitis, "Id reactions," atopic dermatitis.

#### Therapy

1. Isolate the patient. Treat all infested contacts.

2. Bathe with soap and water and pat the skin dry.

3. Apply 20 per cent benzyl benzoate emulsion from the neck to the toes, twice daily for 3 days.

4. Boil all clothing and bed clothing in hot soapy water.

Alternate effective medications are 5 to 15 per cent sulfur in petrolatum, or 5 per cent each of balsam of Peru and sulfur in petrolatum.

#### Varicella

*Synonym*. Chicken pox.

*Sites of predilection*. Face, trunk and scalp.

*Objective symptoms*. The condition, which has an acute onset, is initiated with a macular eruption which rapidly becomes papular and then vesicular in a 24-hour period. Discrete scattered vesicles, measuring 2 to 4 mm. in diameter first appear on the face. The vesicles are thin-walled, translucent and later become turbid. They have the so-called "dew-drop" ap-



F 80 Scabies



FIG. 80. Varicella.

pearance with an erythematous areola. The lesions appear in successive crops and show varying stages of development from a fresh vesicle to a drying, crusted lesion. Central umbilication develops in the lesions prior to involution. Healing is followed by pitted scars (pock marks). Scattered vesicles occur on the buccal mucosa or the hard or soft palate. Involution of the individual vesicles usually begins after 48 hours.

**Subjective symptoms.** There may be prodromal symptoms of coryza, slight elevation of temperature and malaise. The eruption is accompanied by pruritus.

**Etiology.** A filtrable virus identical with the virus which causes herpes zoster.

**Histopathology.** Multilocular vesicles with large multinucleated balloon cells are seen within the epidermis. There is a sparse leukocytic infiltration occupying the upper portion of the cutis.

**Diagnostic aids.** Biopsy, tissue culture, history and physical examination.

**Relation to systemic disease.** Cerebral complications such as encephalitis have been reported. Pneumonia, middle ear infections, cellulitis and septicemia are also complications of varicella.

**Differential diagnosis.** Varicella, impetigo, contact dermatitis, folliculitis, drug eruptions.

**Therapy.** Isolation, bed rest, antipyretics and fluids. Antipruritic lotions locally for relief of itching.

### Varicelliform Eruption, *hæpox*

**Synonym.** None.

**Sites of predilection.** Face, neck, shoulders, upper chest and upper arms.

**Objective symptoms.** Occurs on eczematous areas and also normal skin. It is usually seen in patients with atopic eczema or a history of atopy. Groups of vesicles and pustules, some showing umbilication, occur on the sites of predilection. Crusting occurs, with some residual scarring. Fever occurs about 24 hours before the eruption makes its appearance and continues for a week or more. The face is usually the area most extensively affected and may be edematous, especially in the periorbital region. The cornea may also be involved with ulcer formation.

**Subjective symptoms.** Elevated temperature, head ache and toxicity.

**Etiology.** Herpes simplex virus has been demonstrated.

**Histopathology.** Vesiculation and pustulation with reticular and balloon cell degeneration. Contained within the degenerated epidermal cells one may see inclusion bodies. A moderate to severe inflammatory reaction is present in the cutis.

**Diagnostic aids.** Recovery of the herpes simplex virus, tissue culture, biopsy, history and physical examination.

**Relation to systemic disease.** The disease may be fatal. Involvement of the eye with corneal ulceration leads to impairment of vision.

**Differential diagnosis.** Eczema, vaccinatum (gen. emulized vaccinia), varicella and varicella.

**Therapy.** Nonspecific. Bed rest, cool, normal saline compresses to the affected areas, fluid and sedation are indicated. If there is involvement of the cornea, the patient should be under the care of an ophthalmologist.

## Chapter 18

### PUSTULAR ERUPTIONS

#### *Acne Varioliformis*

**Synonym** Acne necrotica acne atrophica acne frontalis.

**Sites of predilection** Forehead and scalp.

**Object of symptoms** The primary lesion is a superficial, dark reddish or brownish papulopustule. The follicular lesions are occasionally pierced by hairs. Many of the pustules are umbilicated and crusted. When the lesions heal superficial pitted scars remain. The lesions appear in crops and recur periodically for many years. This condition which is comparatively rare occurs primarily in adults.

**Subjective symptoms** Mild itching.

**Etiology** Unknown.

**Histopathology** Polymorphonuclear cellular infiltration about the pilosebaceous apparatus. Small central areas of necrosis and subsequent scar formation.

**Diagnostic aids.** History and physical examination biopsy.

**Relation to systemic disease** None.

**Differential diagnosis.** Acne vulgaris impetigo contagiosa varicella varicella pustular syphiloderma.

**Therapy** Antibiotic ointments or lotions locally. Systemic medication is rarely necessary.

#### *Acne Vulgaris*

**Synonym** Acne pimples.

**Sites of predilection** Face, neck, shoulders, chest and buttock.

**Object of symptoms** This is a chronic inflammatory disease of the pilosebaceous apparatus, characterized by papules, pustules, nodules and associated with seborrhea oleosa and comedones.

In the superficial type there are few to numerous conical or round pink to reddish papules and pustules varying in size from 2 mm. to 3 mm. in diameter. Numerous comedones are present and the skin is usually very oily. In the deep indurated type acne conglobata there are large dull red or bluish, cystic lesions, indolent abscesses and discharging sinuses which heal slowly leaving dense scars.

**Subjective symptoms** Pain on pressure. Slight itching or burning.

**Etiology** Unknown. Acne occurs most commonly between the ages of 12 and 30 years. Hormone imbalance contributes to the production of acne.

**Histopathology** Perifollicular inflammation. Abscesses surrounded by a dense inflammatory infiltrate of lymphocytes and polymorphonuclear leukocytes.

**Diagnostic aids** Biopsy history and physical examination.

**Relation to systemic disease** None. The cosmetic defect may produce serious mental illness.

**Differential diagnosis.** Actinomycosis bromide and iodide intoxication acrofoloderma acneiform eruptions produced by petroleum products.

**Therapy** *Systemic treatment.* The tetracyclines may be of value in selected cases. Vitamin A, 50,000 units four times daily.

*Dietary restrictions* include the elimination of oily foods, nuts, chocolate carbonated beverages, and fried foods.

*Local applications* of colloidal sulfur lotions may be of value. Ultraviolet therapy and conventional x-ray treatments are adjunctive modalities of treatment. See instructions for acne in the chapter on Therapy.



### Actinomycosis

*Synonym* Lumpy jaw

*Sites of predilection* Face neck thorax and tongue

*Objective symptoms* The infection usually begins in the mouth and the skin lesions are secondary. Deep subcutaneous slowly developing dusky red nodules rupture forming sinuses in the skin from which exude a purulent discharge containing tiny whitish or yellowish granules (sulfur granules).

*Subjective symptoms* Pain especially on mastication

*Etiology* *Actinomyces bovis* and other fungi

*Histopathology* Deep nodular infiltrations with granulation tissue epithelioid cells plasma cells and giant cells. The ray fungus is present in the infiltrate.

*Diagnostic aids* Demonstration of ray fungus by direct examination culture on Sabouraud's medium biopsy history and physical examination

*Relation to systemic disease* The fungus may invade internal organs producing generalized involvement

*Differential diagnosis* Furuncle carbuncle blastomycosis tuberculosis cutis late syphilis (gumma)

*Therapy* Penicillin in adequate dosage may be curative. Chloramphenicol is of value. Sulfonamides may also be useful.

### Anthrax

*Synonym* Malignant pustule wool sorter's disease

*Sites of predilection* Face and extremities

*Objective symptoms* The primary lesion develops as a reddish papule at the site of inoculation. A bleb forms over this lesion and the involved area becomes edematous and indurated. The lesion assumes the characteristics of a discharging carbuncle with suppurative satellite adenopathy. Metastatic abscesses frequently develop. Vesicles and pustules occur about the periphery of the crusted necrotic area.

*Subjective symptoms* This is a serious generalized constitutional illness. Systemic symptoms in-

clude chills fever and malaise. Itching, burning and pain occur at the site of the lesions.

*Etiology* *Bacillus anthracis*. Infection usually develops in persons who handle hides or infected animals. Infection may result from careless handling of infected dressings.

*Histopathology* Numerous bacilli are present in the sub-papillary vascular net. In the corium and subcutaneous tissue there is vascular dilatation and interstitial edema. Collagen bundles are swollen and split. Marked generalized leukocytic infiltration is present.

*Diagnostic aids* Biopsy history and physical examination culture

*Relation to systemic disease* The primary lesion is evidence of a generalized systemic illness. Fatal termination may result from overwhelming infection.

*Differential diagnosis* Furunculosis carbunculosis

*Therapy* Chloramphenicol the tetracyclines, and penicillin are of value given in adequate dosage early in the course of the illness.

### Bacterid Pustular

*Synonym* Pustular pruritus

*Sites of predilection* Hands and feet

*Objective symptoms* The condition begins on the palmar and plantar surfaces as deep-seated small vesicles (1 to 2 mm. in diameter) which become pustules. Eventually practically all the lesions become pustular. Tiny hemorrhagic punctae commonly develop among the pustules. In extensive cases the pustules coalesce to form large honey-combed lesions in the epidermis. When the pustules rupture or dry scaling and crusting occur. New pustules usually appear in crops and are accompanied by marked pruritus. When the condition becomes quiescent adherent scaling is the predominant feature.

*Subjective symptoms* Itching burning and pain.

*Etiology* Many investigators feel that the condition is caused by a focus of infection. The contents of the lesions are sterile. This may be an allergic reaction to staphylococci or streptococci infections.

*Histopathology* There are pustules in the epi-

dermis with a slight inflammatory reaction in the cutis. The pustules contain numerous leukocytes and epithelial cells.

**Diagnostic aids.** Biopsy, culture, history and physical examination.

**Relation to systemic disease.** No specific relationship.

**Differential diagnosis.** Pustular promela dermatitis, recurrent epidermophytosis.

**Therapy.** A complete survey to rule out foci of infection, cold baths, a solution dressing (diluted 1:32) hydrocortisone or other steroid ointment or lotions may be of value. Radiation therapy is seldom of value.

### Blastomycosis

**Synonym.** Dermatitis blastomycetosa. North American blastomycosis. Coccidioid disease.

**Sites of predilection.** Face, hands, wrists and forearms. May occur at any site.

**Objective symptoms.** The fully developed lesion is chronic slowly progressive granuloma characterized by the formation of thick crusts, verrucous vegetation and draining sinuses. The lesions usually begin as a papule or papulopustule which spreads peripherally and is encircled with a crust. The pustules coalesce to form a verrucous granuloma. Thick mucoid pus is present under the crusts or exudes through the sinuses. The central portion of the lesion involutes and forms a thick scar. Small pustules are present in the granulomatous margin. The lesions spread by auto-inoculation. Papillomatous projections are pronounced in lesions on the hands and feet. The lesions are vascular and bleed after slight trauma. Lesions may spread by lymphatic extension.

**Subjective symptoms.** Little or no pain.

**Etiology.** *Blastomycetes dermatidis*.

**Histopathology.** Debris consisting of pus, blood, and epithelial cells is present on the surface. The horny layer may be destroyed or may extend as thickened masses between distended papillae. Many bacteria containing the *Blastomycetes* are found throughout the epidermis and cutis. Pseudoepitheliomatous hyperplasia is present.



F 91 Blastomycosis

**Diagnostic aids.** History and physical examination, biopsy, culture. Intradermal test with a standardized vaccine (0.1 cc. injected intradermally). The test is read at 12, 4 and 48 hours.

**Relation to systemic disease.** This is a progressive disease in which all organs may be involved.

**Differential diagnosis.** Tuberculosis, verrucosa cutis, granuloma inguinale, drug eruptions, gamma chronic pyoderma.

**Therapy.** Stilbamidine or 2-hydroxy stilbamidine.

are the drugs of choice. Amphotericin B is also of value.

### Bromoderma

*Synonym* Drug eruption dermatitis medicamentosa

*Sites of predilection* Face, trunk, and lower extremities

*Objective symptoms* The most common lesions are follicular pustules which vary from 2 to 6 mm in diameter. The eruption resembles acne vulgaris but there are no comedones. Cnulinomatous lesions occur most frequently on the lower extremities, although they may develop on the face in infants. The granulomatous lesions may coalesce to form large areas, which become suppurative, crusted, or vegetative. There is a striking resemblance to the lesions of blastomycosis.

*Subjective symptoms* Itching and burning.

*Etiology* Hypersensitivity to bromide. Bromides are contained in some commercially available headache remedies.

*Histopathology* Follicular lesions are nonspecific pustules. The granulomatous lesions have a nonspecific picture.

*Diagnostic aids* Biopsy; blood bromide level; history and physical examination.

*Relation to systemic disease* The condition that necessitated continuous consumption of bromides. Mental illness.

*Differential diagnosis* Acne, syphilis, furunculosis, blastomycosis.

*Therapy* The ingestion of bromides must be discontinued. Sodium chloride given by mouth and intravenously will replace the bromide in the blood. Care must be exercised in giving hypertonic intravenous saline to prevent shock. Oral sodium chloride will replace the bromide but much more slowly.

### Carbuncle

*Synonym* None

*Sites of predilection* Back of the neck may also occur on the trunk and extremities.

*Objective symptoms* The lesion is usually a single raised, indurated, acutely inflamed red or red dish-blue fluctuant pustule which varies in

size from 1 to 5 cm. It has two or more openings which discharge thick yellow pus. The central part of the lesion is composed of one or more large necrotic pustular masses (core).

*Subjective symptoms* Pain. Systemic symptoms include chills and fever.

*Etiology* Staphylococci.

*Histopathology* There is a deep circumscribed pyogenic infection extending well into the corium.

*Diagnostic aids* History and physical examination; culture of exudate; urinalysis; blood sugar.

*Relation to systemic disease* Diabetes mellitus may predispose to the development of carbuncles. These lesions may also occur in leukemia or other debilitating diseases.

*Differential diagnosis* Sebaceous cyst, furuncle, deep mycotic granuloma.

*Therapy* Incision and drainage of fluctuant lesions. Systemic antibiotic therapy is indicated in extensive lesions. Use the drug indicated by disc or tube dilution sensitivity tests.

### Coccidioidomycosis

*Synonym* Coccidioidal granuloma, valley fever, San Joaquin fever.

*Sites of predilection* Face and upper extremities.

*Objective symptoms* Primary cutaneous coccidioidomycosis is rare. Pulmonary lesions are common in this serious, generalized illness. The earliest cutaneous lesion is a chancre or granuloma which may remain localized for several years. Satellite lymphadenopathy eventually suppurates and forms sinuses. The lesions spread slowly. Nodular or circumscribed granuloma may develop.

Erythema nodosum is a common allergic manifestation of pulmonary involvement. The cutaneous lesions which complicate pulmonary involvement are not distinctive. Large nodular lesions or granulomas develop on the legs, hips, and buttocks. These lesions become confluent, suppurate and ulcerate. Vegetative lesions may develop. Pulmonary lesions are associated with malaise, chills, fever, night sweats and severe headaches. The disease has a poor prognosis.

*Etiology* *Coccidioides immitis*.

*Histopathology* A granuloma deep in the cutis. Plasma cells, leukocytes, giant cells and rpi

theboid cells form the dense infiltrate. The organisms are present in the giant cells.

**Diagnostic aids.** History and physical examination culture biopsy intradermal skin tests.

**Relation to systemic disease.** This is a serious systemic disease.

**Differential diagnosis.** Blastomycosis : chromoblastomycosis gumma.

**Therapy.** Amphotericin B is of value. Use supportive measures.

### Dermatitis Repens

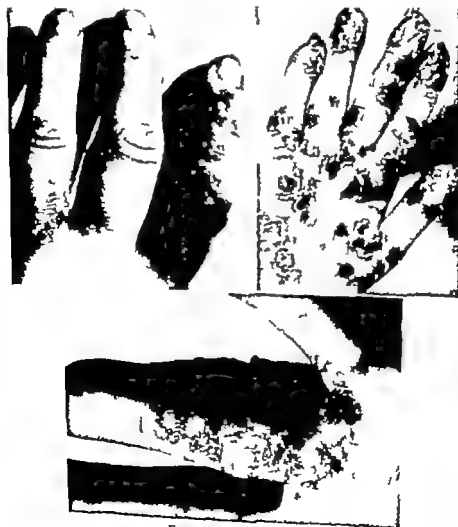
**Synonym.** Acrodermatitis continua of Hallopeau acrodermatitis perstans.

**Sites of predilection.** Hands and feet

**Objective symptoms.** The condition begins as a group of vesicles or vesicopustules which extend peripherally on an erythematous base. Exfoliation occurs, leaving an eroded or crusted area surrounded by an exfoliating margin in which there are deep seated vesicles and vesicopustules. New lesions continue to appear. The condition is chronic and progressive. Crust formation may be present.

**Subjective symptoms.** Burning, itching, and pain.

**Etiology.** Staphylococci or streptococci infection complicating previously existing eczematous eruptions.



Г 92 Dermatitis repens

**Histopathology** Epidermal vesicles and abscesses are present. These lesions usually do not extend into the corium but the inflammatory reaction does.

**Diagnostic aids** Culture of the exudate. History and physical examination.

**Relation to systemic disease** Usually none.

**Differential diagnosis** Pustular psoriasis, pustular bacterid, dyshidrosis.

**Therapy** Hot boric acid compresses or soaks followed by antibiotic ointment or lotion. Local debridement of the exfoliating infected material. Systemic antibiotic drugs may be indicated if the infection is severe or if cellulitis and lymphangitis develop.

### Ecthyma

**Synonym** Deep-seated impetigo contagiosa.

**Sites of predilection** Legs, buttocks, hands, trunk and vulva.

**Objective symptoms** The primary lesion is a vesicle or vesicopustule (1 to 3 cm. in diameter) which enlarges peripherally. The surface becomes covered with a thick adherent crust. Removal of the crust reveals a shallow ulcer, the base of

which is bathed in pus. Healing takes place with scar formation.

**Subjective symptoms** Slight to severe pain.

**Etiology** Staphylococci. Ecthyma may develop as a complication of dermatitis venerea, scabies, or eczema.

**Histopathology** Numerous abscesses involving the entire thickness of the epidermis and the upper portion of the cutis.

**Diagnostic aids** History and physical examination, culture of the exudate.

**Relation to systemic disease** None.

**Differential diagnosis** Sporotrichosis, gumma, condyloma latum, the vulva, chancreloid.

**Therapy** Hot boric acid or normal saline compresses followed by applications of an antibiotic ointment or lotion. Systemic antibiotic therapy may be necessary if the lesions are extensive.

### Eczema

**Synonym** Dermatitis.

**Sites of predilection** Face, scalp and upper extremities.

**Objective symptoms** These pustular lesions always represent secondary pyogenic infection of a previously existing eruption. Pustule formation may complicate vesicular eczema or develop as small pustules on an eczematous dermatitis. The areas are ill-defined, confluent lesions which are covered with small yellowish or greenish-yellow pustules and pus crusts.

**Subjective symptoms** Moderate to severe itching.

**Etiology** This is a staphylococcal or streptococcal infection superimposed on a previously existing allergic dermatitis.

**Histopathology** Non-specific. Superficial abscesses are present in the epidermis.

**Diagnostic aids** History and physical examination, cultures.

**Relation to systemic disease** Develops secondary to a pre-existing allergic dermatitis.

**Differential diagnosis** Impetigo, pediculosis capitis, seborrheic dermatitis, dermatitis herpetiformis, pemphigus vulgaris.

**Therapy** Treat the secondary pyogenic infection with hot boric acid compresses and local antibiotic ointments. Topical steroid antibiotic combination ointment and lotions are of value.

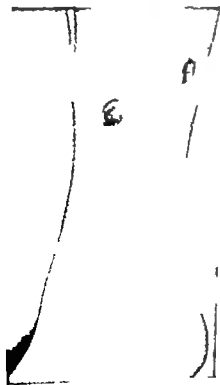


FIG. 93 Ecthyma



F 91 Furuncle complicating inguinal eczema



F 93 Pustule folliculitis

### Folliculitis

#### Synonym None

*Site of predilection* Buttock, extensor surfaces of thigh, trunk face

*Objective symptoms* The condition is characterized by the development of numerous superficial pustules which originate in hair follicle. These lesions vary in size from 1 to 4 mm in diameter. A hair shaft may pierce the pustule. Follicular papules may be intermingled with the pustules.

*Subjective symptoms* Itching, mild stinging

*Etiology* Pyogenic bacteria. The condition may be allergic reaction to ingested or injected substances.

*Histopathology* Abscess formation in and about the hair follicle.

*Prognosis and* Culture history and physical examination

*Relation to systemic disease* A food or drug sensitivity reaction may precipitate the eruption.

*Differential diagnosis* Impetigo contagiosa, varicella, acne vulgaris, papulopustular tuberculosis.

*Therapy* Hot compresses, antibiotic ointments and lotions, proper hygiene, removal of causative factor.

### Furuncle

#### Synonym Boil

*Sites of predilection* May occur at any site

*Objective symptoms* The initial lesion: an acute tender circumscribed, deep seated, follicular pustule which varies in size from 2 mm. to 1 cm. in diameter. Perifollicular erythema and induration develop. The central area becomes soft and develops a yellow top. When the furuncle ruptures, a thick yellow greenish or bloody pus is discharged followed by the core. Furuncles heal with scar formation. A blind boil is a furuncle which does not fully develop and rupture.

*Subjective symptoms* Pain

*Etiology* Staphylococci.

*Histopathology* A deep abscess formed by necrotic material, leukocytes and colonies of staphylococci. The lesions begin in and around the pilosebaceous apparatus eventually forming abscesses. The inflammatory cells are densely

packed. In chronic lesions lymphocytes, plasma cells, and giant cells may be present.

*Relation to systemic disease.* Diabetes, alcoholism, anemias, and other debilitating diseases.

*Differential diagnosis.* Carbuncle, sebaceous cysts.

*Therapy.* Systemic antibiotic selection should be based on disc or tube dilution sensitivity tests if lesions are resistant to empirical therapy. Hot compresses and local antibiotic therapy may be of value. Fluctuant lesions must be drained surgically.

### Hidradenitis Suppurativa

*Synonym.* Abscess of the apocrine sweat gland; axillary abscesses.

*Sites of predilection.* Axillae; lesions occasionally occur about the external genitalia and the areolae of the breasts.

*Objective symptoms.* The lesions begin as small subcutaneous nodules, which may involute spontaneously or develop into abscesses. Adjoining lesions may coalesce to form band-like indurations. Sinus tracts may develop and drain for many months.

The condition occurs more frequently in women.



FIG. 66 Hidradenitis suppurativa.

*Subjective symptoms.* Varying degrees of pain.

*Etiology.* Unknown. May be associated with the use of deodorants.

*Histopathology.* Variable leukocytic infiltration surrounding the lumen of the apocrine gland. When the infection is of long standing, there is a perivascular infiltration of plasma cells and lymphocytes.

*Diagnostic aids.* Culture, history and physical examination.

*Relation to systemic disease.* None has been established.

*Differential diagnosis.* Furuncle, cellulitis, erysipelas, lymphadenitis.

*Therapy.* Systemic antibiotic therapy may be indicated. Local incision and drainage of the abscesses. Avoidance of deodorants, other sensitizing agents, and irritants.

### Kerion

*Synonym.* Kerion celsi; tinea kerion.

*Sites of predilection.* Scalp.

*Objective symptoms.* There are usually one or more raised, boggy inflammatory crusted lesions present. Pus exudes from the follicles and the hairs fall out. The lesions begin as a group of follicular pustules in an area of tinea capitis. Healing may be followed by scar formation and alopecia. The pyogenic infection usually destroys the fungus infection.

*Subjective symptoms.* Pain.

*Etiology.* Pyogenic infection complicating a fungus infection of the scalp. The condition may represent an allergic phenomenon.

*Histopathology.* An inflammatory process in the upper part of the corium and about the follicles. The causative organism may be present in abundance within and outside of the hair follicle.

*Diagnostic aids.* Culture for both bacteria and fungi.

*Relation to systemic disease.* None.

*Differential diagnosis.* Impetigo, contagion furuncles.

*Therapy.* Hot saline or boric acid compresses and locally applied antibiotics. If the process is very severe, systemic antibiotic therapy is indicated.

## Pyoderma Faciale

*Synonym.* None.

*Sites of predilection.* Face.

*Objective symptoms.* There are numerous confluent abscesses and cystic lesions containing thick, yellow or greenish pus, on the cheeks and chin. The fluctuant lesions rupture and form sinuses. The skin surface over the lesions is red or bluish red. The condition most frequently develops in young women. This dermatosis is differentiated from acne by the absence of comedones and the lack of lesions on the chest and back.

*Subjective symptoms.* Pain. The cosmetic defect is product of emotional trauma.

*Etiology.* Pyogenic bacteria.

*Histopathology.* Deep seated abscesses and sinuses with acute and chronic cellular infiltration.

*Diagnostic aids.* Culture and sensitivity tests history and physical examination.

*Relation to systemic disease.* None has been established.

*Differential diagnosis.* Acne conglobata, rosacea, bromoderma.

*Therapy.* Hot saline or boric acid compresses. Systemic therapy using the antibiotic of choice indicated by sensitivity test. Incision of the larger fluctuant lesion is necessary. Fractional ray treatment may be of value.

## Sporotrichosis

*Synonym.* None.

*Sites of predilection.* Extremities.

*Objective symptoms.* The causative organism is inoculated by trauma in gardeners, florists, and laborers. The initial lesion is usually a small

nodule which breaks down to form the sporotrichal chancre at the site of inoculation. Numerous indolent painless, nodular granulomas develop along the course of the ascending lymph vessels. These granulomas eventually become fluctuant and form abscesses and ulcers. Lesions may develop in bone or viscera.

*Subjective symptoms.* Vary with the extent and severity of the lesions.

*Etiology.* *Sporotrichum schenckii*.

*Histopathology.* An infectious granuloma with the formation of deep abscesses, sinuses and ulcers. The chronic inflammatory infiltrate is composed of epithelioid cells, giant cells, plasma cells and lymphocytes.

*Diagnostic aids.* Culture on Sabouraud's medium history and physical examination.

*Relation to systemic disease.* Involvement of the skeletal system, lungs, and other organs may occur.

*Differential diagnosis.* Tuberculosis, cutis blastomycosis, syphilis, bacterial infections, tularemia.

*Therapy.* Potassium iodide 4 to 8 gm. daily continued for one month after all lesions have healed. Local application of 3 per cent tincture of iodine to the granulomas.

## Sycosis Barberae

*Synonym.* Sycosis vulgaris. Barber's itch.

*Sites of predilection.* Bearded portion of the face and neck.

*Objective symptoms.* This is a chronic eruption of the bearded area. It begins as scattered follicular pustules from which hairs protrude. The lesions spread and, in a brief time, cover large areas. The skin between the pustules becomes red and scaly. These pustules are ruptured by washing or shaving and the entire area may become covered with serous and pus crusts. The hairs become loosened in the follicles. Healing takes place with scar formation which may produce a large area, devoid of hair and surrounded by papules and pustules.

*Subjective symptoms.* Itching.

*Etiology.* Staphylococci. The condition may be



F 9. Sporotrichosis





FIG 85 Severe barbae

caused by infection of ingrown hairs. Bacterial infection may complicate allergic contact dermatitis caused by after-shave lotion shaving cream, etc.

**Histopathology** A perifollicular leukocytic infiltrate is present. The entire follicle may become involved. In chronic lesions, lymphocytes, plasma cells, and giant cells appear.

**Diagnostic aids** History and physical examinations, culture and sensitivity tests.

**Relation to systemic disease** None.

**Differential diagnosis** Tinea syconia, lupus vulgaris, impetigo contagiosa, eczema, acne vulgaris.

**Therapy** Hot boracic acid compresses followed by antibiotic ointments. In resistant cases systemic antibiotic therapy may be necessary. The shaving hygiene should be corrected.

### Syphilis Pustular

**Synonym** Lues, the pox, rupial syphilid, framboesiform syphilid, ecthymatous syphilid.

**Sites of predilection** Chest, back, and face.

**Objective symptoms** This is a late manifestation of secondary syphilis. The primary lesion is a

pustule arising on a reddish brown infiltrated base. These pustules are small, perifollicular, numerous, and occur in groups. Hard, shotty discrete papulopustules, which rarely form groups, also develop. Untreated, involution is usually slow, resulting in persistent crusted, superficial ecthymatous ulcers. Rupial syphilid is an ulcer covered with a thick, oyster shell-like scale or crust.

**Subjective symptoms** Itching.

**Histopathology** These lesions show varying degrees of perivascular infiltration consisting of round cells and plasma cells. Multinucleated giant cells and vascular occlusion may be present.

**Diagnostic aids** Serologic tests for syphilis, dark field examination from moist lesions.

**Relation to systemic disease** Syphilis is a systemic disease.

**Differential diagnosis** Variola, acne vulgaris, varicella, drug eruptions.

**Therapy** See syphilis in the chapter on Venereal Diseases.

### Tinea Barbae

**Synonym** Tinea syconia, barber's itch, ringworm of the beard.

**Sites of predilection** The bearded area.

**Objective symptoms** This condition occurs most frequently in farmers or animal handlers. The superficial type appears initially as pink, scaly macules. Follicular pustules appear in the periphery of the lesion. The hairs become loosened in the follicles. Seropurulent crust formation occurs.

The deep type develops slowly, producing nodular lesions and kerion-like swellings (*Majocchi's granuloma*). Openings in the lesions drain thick mucoid pus. The hairs are easily extracted or may fall out.

**Subjective symptoms** Itching, tenderness, and pain.

**Etiology** *Trichophyton mentagrophytes*, *Microsporum canis*, *Trichophyton violaceum*, or *Trichophyton rubrum*.

**Histopathology** There is deep perifollicular cellular infiltration and necrosis.

**Diagnostic aids** Culture on Sabouraud's medium.

**Relation to systemic disease** None.

*Differential diagnosis* *Sycosis vulgaris* impetigo contagiosa actinomycetoid furuncles.

*Therapy* There is a tendency to spontaneous resolution of lesions. Hot boracic acid or saline compresses followed by topical application of antibiotic in the pustular type. Griseofulvin may be of value on systemic administration.

### Vaccinia

*Synonym* Cowpox eczema vaccinatum

*Site of predilection* Generalized

*Objective symptoms* This condition develops 4 to 10 days after vaccination in person with atopic dermatitis or other eczematous eruptions. It may also develop following contact with vaccination take in another person. Vaccinia only develops in individual who have not been successfully vaccinated against smallpox. The eruption may occur on any part of the body.

The lesions begin as large (1 to 1.5 cm in diameter) vesicles which umbilicate, become globular pustules, then form crusts. Healing takes place with scar formation.

*Subjective symptoms* Patients become seriously ill with chills, fever and general malaise.

*Etiology* Cowpox virus

*Histopathology* Subepidermal vesicles and marked

intracellular edema in the epidermis. Intracellular inclusion bodies are present in the vesicles.

*Diagnostic aids* Biopsy rabbit cornea inoculation tissue culture

*Relation to systemic disease* This is a generalized disease which may be complicated by ocular paralysis, postvaccinal retinitis and encephalitis. Death may ensue.

*Differential diagnosis* Variola varicella

*Therapy* Supportive. Prophylaxis demands that vaccination is contraindicated in atopic dermatitis.

### Variola

*Synonym* Smallpox

*Site of predilection* Generalized.

*Objective symptoms* An acute infectious and contagious disease characterized by the successive development of macules, papules, vesicles and pustules on the skin and mucous membranes. The first lesions to appear are numerous macules which become vesicles within 24 hours. These lesions umbilicate then become pustules. Unlike varicella, variola is characterized by a single crop of lesions which progresses through the successive stages of development at the same time. When fully developed, the eruption consists of numerous discrete shotty globular pustules 2 to 6 mm in diameter. There is facial swelling and generalized erythema. These lesions later become crusted and eventually heal with pitted scars.

*Subjective symptoms* Prodromal symptoms of malaise headache and fever (100° to 103° F) before the development of the exanthem. The patient is very ill and may lapse into a coma.

*Etiology* Virus.

*Histopathology* The primary lesion is an intraepidermal, multilocular vesicle which contains ballooning cell and inclusion bodies (Guarnieri bodies.)

*Diagnostic aids* History and physical examination tissue culture

*Relation to systemic disease* This is a generalized systemic disease which may have a fatal ter



FIG. 89. Variola.



FIG. 55. Sycosis barbae

caused by infection of ingrown hairs. Bacterial infection may complicate allergic contact dermatitis caused by after-shave lotion shaving cream etc.

**Histopathology** A perifollicular leukocytic infiltrate is present. The entire follicle may become involved. In chronic lesion lymphocytes plasma cell and giant cells appear.

**Diagnostic aids** History and physical examination, culture and sensitivity tests.

**Relation to systemic disease** None.

**Differential diagnosis** Tinea sycosis, lupus vulgaris, impetigo contagiosa, eczema, acne vulgaris.

**Therapy** Hot boracic acid compresses followed by antibiotic ointment. In resistant cases systemic antibiotic therapy may be necessary. The shaving hygiene should be corrected.

### Syphilis Pustular

**Synonym** Lucet, the pock, rupial syphilid, framboesiform syphilid, cethymatous syphilid.

**Sites of predilection** Chest, back and face.

**Objective symptoms** This is a late manifestation of secondary syphilis. The primary lesion is a

pustule arising on a reddish brown infiltrated base. These pustules are small, perifollicular, numerous, and occur in groups. Hard, shiny discrete papulopustules, which rarely form groups, also develop. Untreated involution is usually slow, resulting in persistent crusted, superficial cethymatous ulcers. Rupial syphilid is an ulcer covered with a thick, oxter shell like scale or crust.

**Subjective symptoms** Itching.

**Histopathology** These lesions show varying degrees of perivascular infiltration consisting of round cells and plasma cells. Multinucleated giant cells and vascular occlusion may be present.

**Diagnostic aids** Serologic tests for syphilis, dark field examination from moist lesions.

**Relation to systemic disease** Syphilis is a systemic disease.

**Differential diagnosis** Variola, acne vulgaris, varicella, drug eruptions.

**Therapy** See syphilis in the chapter on Venereal Diseases.

### Tinea Barbae

**Synonym** Tinea sycosis, barber's itch, ringworm of the beard.

**Sites of predilection** The bearded area.

**Objective symptoms** This condition occurs most frequently in farmers or animal handlers. The superficial type appears initially as pink, scaly macules. Follicular pustules appear in the periphery of the lesions. The hairs become loosened in the follicles. Scropurulent crust formation occurs.

The deep type develops slowly, producing nodular lesions and kerion like swelling (*Majocchi's granuloma*). Openings in the lesions drain thick, mucoid pus. The hairs are easily extracted or may fall out.

**Subjective symptoms** Itching, tenderness and pain.

**Etiology** *Trichophyton mentagrophytes*, *Microsporum canis*, *Trichophyton violaceum* or *Trichophyton rubrum*.

**Histopathology** There is deep perifollicular cellular infiltration and necrosis.

**Diagnostic aids** Culture on Sabouraud's medium.

**Relation to systemic disease** None.

**Differential diagnosis** *Sycosis vulgaris*, *Impetigo contagiosa*, *actinomycosis*, *furuncles*.

**Therapy.** There is a tendency to spontaneous involution of lesions. Hot boric acid or saline compresses followed by topical applications of antibiotic in the pustular type. Griseofulvin may be of value on systemic administration.

### Vaccinia

**Synonym** *Corpus cereum vaccinatum*.

**Site of predilection** Generalized.

**Objective symptoms.** This condition develops 4 to 10 days after vaccination in persons with atopic dermatitis or other eczematous eruptions. It may also develop following contact with a vaccination "take" in another person. Vaccinia only develops in individual who have not been successfully vaccinated against smallpox. The eruption may occur on any part of the body.

The lesions begin as large (1 to 1.5 cm. in diameter) vesicles which umbilicate, become globular pustules, then form crust. Healing takes place with scar formation.

**Subjective symptoms** Patient become seriously ill, with chills, fever and general malaise.

**Etiology** *Corpus virus*.

**Histopathology** Subepidermal vesicles and marked

intracellular edema in the epidermis. Intracellular inclusion bodies are present in the vesicles.

**Diagnosis** *causa* Biopsy, rabbit cornea inoculation, tissue culture.

**Relation to systemic disease** This is a generalized disease which may be complicated by ocular paralysis, post-vaccinal retinitis and encephalitis. Death may ensue.

**Differential diagnosis.** *Varicella*, *varicella*.

**Therapy** Supportive. Prophylaxis demands that vaccination is contraindicated in atopic dermatitis.

### Varicella

**Synonym** *Smallpox*.

**Site of predilection** Generalized.

**Objective symptoms** An acute infectious and contagious disease characterized by the successive development of macules, papules, vesicles, and pustules on the skin and mucous membranes. The first lesions to appear are numerous macules which become vesicles within 24 hours. These lesions umbilicate then become pustules. Unlike varicella, varicella is characterized by a single crop of lesions which progresses through the successive stages of development at the same time. When fully developed the eruption consists of numerous discrete shotty globular pustules 2 to 6 mm. in diameter. There is facial swelling and generalized erythema. These lesions later become crusted, and eventually heal with pitted scars.

**Subjective symptoms** Prodromal symptoms of malaise, headache and fever (100° to 103°F) before the development of the exanthem. The patient is very ill and may lapse into a coma.

**Etiology** *Virus*.

**Histopathology** The primary lesion is an intra-epidermal multilocular vesicle which contains balloon cell and inclusion bodies (Guarnieri bodies).

**Diagnostic aids** History and physical examination, tissue culture.

**Relation to systemic disease** This is a generalized systemic disease which may have a fatal ter-



Fig. 87. Vaccinia

mination. Renal failure and pulmonary complications occur.

*Differential diagnosis:* Pustular syphilis, varicella, generalized vaccinia.

*Therapy:* Strict isolation of the patient is necessary. Vaccination is a preventive measure. There is no specific therapy for smallpox. Use supportive measures.

## Chapter 19

# ERUPTIONS INVOLVING THE SCALP AND OTHER HAIRY AREAS

### Alopecia Areata

**Synonym** Bald areas. If all hair is lost the condition is called alopecia universalis or alopecia totalis.



FIG. 109. Above Alopecia areata. Below Alopecia totalis on one side and alopecia totalis on the other.

**Sites of predilection.** Scalp, beard, or generalized (alopecia totalis).

**Objective symptoms.** One or more circumscribed, round or irregular bald areas in which there is absence of any active inflammatory process. The involved area may be completely bald or a few scattered, discrete isolated hairs may be present. The lesions extend peripherally and occasionally all of the hair may be lost. When the hair begins to regrow it is usually fine and white. This growth is lost and is replaced by normal hair. There is a tendency to relapse.

**Subjective symptoms.** None except the emotional imbalance produced by the cosmetic defect.

**Etiology.** Unknown. The condition may be associated with emotional shock or psychogenic stimuli.

**Histopathology.** Atrophy of the hair follicles and sebaceous glands.

**Diagnostic aids.** Clinical appearance, serologic test for syphilis, history and physical examination.

**Relation to systemic disease.** Emotional imbalance, chronic systemic illness.

**Differential diagnosis.** Ringworm of the scalp, syphilitic alopecia, alopecia caused by febrile illnesses, seborrheic dermatitis.

**Therapy.** There is no specific treatment. Rest and relief from anxiety is essential. Systemic steroid therapy is to be avoided. Ultraviolet may be of value.

### Alopecia Congenital

**Synonym.** Congenital ectodermal defect.

**Sites of predilection.** Scalp and other areas.

**Objective symptoms.** There may be complete or partial absence of hair on all parts of the body.



FIG. 101 Congenital ectodermal defect

(congenital ectodermal defect) If hair is present it is usually fine whitish lustreless, and occurs in scattered tufts. Associated with this deformity there is partial or complete absence of sweating and sebium production and there is defective formation of the nails. There is absence of any gross inflammatory process.

*Subjective symptoms* Due to lack of sweat glands these patients are unable to tolerate heat.

*Etiology* A congenital defect.

*Histopathology* Absence of hair follicles and a decrease in number or absence of sweat glands.

*Diagnostic aids* History and physical examination biopsy.

*Relation to systemic disease* Associated with other congenital abnormalities. Many of these patients are subnormal mentally.

*Differential diagnosis* The condition is characteristic.

*Therapy* None effective.

### **Alopecia Limbaris Frontalis**

*Synonym* None.

*Sites of predilection* The hair margin on the forehead and anterior to the ears.

*Objective symptoms* The condition may begin on the forehead or anterior to the ears as a scant, scaling macular eruption which does not produce subjective symptoms. The eventual picture is a symmetric band-like area of baldness which extends from one pre-auricular area across the forehead at the hair margin to the other pre-auricular area. The baldness produced is usually permanent.

*Subjective symptoms* None.

*Etiology* The condition is more common in the Negro and is caused by excessive friction on the hair in forming braids. Excessive brushing with a very stiff brush may also cause this condition.

*Histopathology* There is follicular atrophy.

*Diagnostic aids* Clinical appearance and history.

*Relation to systemic disease* None.

*Differential diagnosis* Seborrheic dermatitis searing alopecia of other types.

*Therapy* Discontinue the practice of strenuous brushing and the formation of tight braids. Local therapy is of no value.

### **Alopecia Male Pattern**

*Synonym* Alopecia prematura; alopecia senilis pelade.

*Sites of predilection* The scalp.

*Objective symptoms* Male pattern baldness may begin prior to the twentieth year (alopecia prematura) or may not have its onset until after the third decade. The hair recedes on either side in the parietal area and also on the crown. The condition may be manifested by slight thinning of the hair in these areas, or it may be progressive becoming an extensively bald area with only a fringe of hair remaining. The skin of the bald area appears normal although varying degrees of seborrheic dermatitis may be present. The scalp may be dry or oily. In older individuals seborrheic keratoses are frequently found on the bald area.

*Subjective symptoms* Usually none. If seborrheic dermatitis is present there is mild itching.

*Etiology* Unknown. There may be a familial tendency toward baldness.

*Histopathology* Atrophy of hair follicles in the involved area.

**Diagnostic aids.** History and clinical appearance.  
**Relation to systemic disease.** None. The degree of alopecia has no relationship to the state of the patient's health. Loss of hair does not mean a loss of vitality or the presence of senescence.  
**Differential diagnosis.** Clinical appearance is characteristic.  
**Therapy.** None effective.

### Alopecia, Symptomatic

**Synonym.** Essential alopecia of women.  
**Sites of predilection.** Scalp.  
**Objective symptoms.** Diffuse thinning of scalp hair in the absence of any gross inflammatory process. There are no circumscribed areas of alopecia. The hair is of normal texture. There is no excessive scale or oiliness.  
**Subjective symptoms.** Emotional imbalance caused by hair loss.  
**Etiology.** May be associated with factors such as emotional tension, excessive brushing, pregnancy, hormonal imbalance, etc.  
**Histopathology.** The microscopic picture is not diagnostic.  
**Diagnosis.** History and physical examination, the scraping and cultures to rule out fungus infection.  
**Relation to systemic disease.** Hormone imbalance, emotional tension, pregnancy.  
**Differential diagnosis.** Other types of alopecia.  
**Therapy.** Avoid excessive brushing, washing, use of mechanical devices, and hair preparations. Treat the underlying disease.

### Alopecia, Pityriatic

**Synonym.** None.  
**Sites of predilection.** Scalp. This manifestation is concomitant with other lesions of secondary syphilis.  
**Objective symptoms.** There are numerous discrete areas of incomplete alopecia over the entire scalp. The individual area varies in size from 1 to 2 cm in diameter. The incomplete hair loss, in these closely grouped lesions, presents a characteristic moth-eaten appearance. Following administration of anti-syphilitic treatment the hair regrows.

**Subjective symptoms.** None produced by the cutaneous lesions.  
**Etiology.** *Spirochaeta pallida* (see the chapter on Venereal Diseases).  
**Histopathology.** Discussed in the chapter on Venereal Diseases.  
**Diagnostic aids.** Discussed in the chapter on Venereal Diseases.  
**Relation to systemic disease.** Syphilis is a systemic disease.  
**Differential diagnosis.** Alopecia areata, tinea capitis, seborrheic alopecia.  
**Therapy.** Treatment of syphilis.

### Alopecia, Total

**Synonym.** Peltic alopecia.  
**Sites of predilection.** The scalp.  
**Objective symptoms.** This type of alopecia is associated with constitutional infections such as typhoid fever, influenza, pneumonia, scarlatina, and drug reactions. Hyperpyrexia is usually associated. There is diffuse general hair loss, occasionally approaching complete baldness. The hair usually regrows after recovery from the primary condition.  
**Subjective symptoms.** None produced by the cutaneous lesion.  
**Etiology.** Although the hair loss is produced by some constitutional disease, the mechanism of action is unknown.  
**Histopathology.** Nonspecific picture.  
**Diagnostic aids.** History and physical examination.  
**Relation to systemic disease.** The condition is associated with some generalized systemic illness, usually accompanied by fever.  
**Differential diagnosis.** Alopecia areata, alopecia prematura, syphilitic alopecia.  
**Therapy.** Treatment of the underlying condition.

### Canities

**Synonym.** Gray hair, poliosis.  
**Sites of predilection.** Scalp.  
**Objective symptoms.** The condition may be congenital (as in albinism), premature, or senile. There is depigmentation of the hair to gray or white in circumscribed areas, or there is general



ized involvement. Graying of the hair may develop prematurely in childhood at puberty or after the third decade. The texture of the hair is unchanged. Occasionally a circumscribed area of gray hair accompanies the development of vitiligo or leukoderma. A single circumscribed lock of white hair may develop in early childhood or at puberty (poliosis circumscripta or localized canities).

*Subjective symptoms* None

*Etiology* Unknown

*Histopathology* Absence of pigment in the follicle and hair shaft

*Diagnostic aids* Clinical appearance is characteristic

*Relation to systemic disease* Premature graying of the hair may follow a prolonged systemic illness or emotional tension

*Differential diagnosis* Clinical appearance is characteristic

*Therapy* None

### Cutis Verticis Gyrate

*Synonym* None

*Sites of predilection* Scalp

*Objective symptoms* The skin of the scalp is over abundant and thrown into folds resembling the convolutions of the brain. The condition may be localized into one small area or it may involve the entire scalp. There is usually thinning of the hair over the convolutions, which are arranged in an irregular sagittal manner.

*Subjective symptoms* None produced by the cutaneous lesion

*Etiology* Some cases develop following severe infection; others are nevroid in character. Constitutional diseases may play some role in the production of the lesions.

*Histopathology* Non-specific.

*Diagnostic aids* Clinical appearance and history.

*Relation to systemic disease* The condition has been known to develop in association with acromegaly, myxedema, leukemia and granuloma fungoides.

*Differential diagnosis* The clinical condition is characteristic.

*Therapy* If a nevus or neurofibroma is causative of the condition, plastic surgery may be of value.

### Dandruff

*Synonym* Seborrhea sicca, pityriasis capitis, mild seborrheic dermatitis.

*Sites of predilection* Scalp, eyebrows and face.

*Objective symptoms.* The condition does not usually develop until puberty. After this it may appear at any age. There are ill-defined, discrete and confluent small or large scattered areas in which there is moderate to marked scaliness. The scale is white or gray, dry or oily. The condition is usually limited within the hair line. There is absence of inflammatory changes. More extensive lesions, in which inflammation develops, are characteristic of seborrheic dermatitis.

*Subjective symptoms* None or mild itching.

*Etiology* Some scale formation is physiologic. Excessively oily foods, emotional tension and medicated hair dressings may cause more active scaling.

*Histopathology* Hyperkeratosis and parakeratosis with slight acanthosis.

*Diagnostic aids* Use the Wood light and cultures to rule out fungus infections.

*Relation to systemic disease* None usually.

*Differential diagnosis* Ringworm of the scalp, pediculosis.

*Therapy* Blauwine oil and grease, foods like Selma, Foster's Sebumex or Capelon shampoo once weekly. Selma Oil or Resoreum-salicylic acid scalp lotion used once or twice daily may be of great value.

### Dermatitis of External Origin

*Synonym* Allergic contact dermatitis.

*Sites of predilection* Scalp and other areas.

*Objective symptoms.* In the scalp the lesions may be macular, papular or vesicular. Secondary pyogenic infection may complicate the previous existing eruption. The lesion may be localized to the scalp or extend on to the forehead, face and neck. Small or large areas may be involved. In extensive cases the edema may spread to the forehead and the tissues about the eyes.

*Subjective symptoms* Moderate to intense itching.

*Etiology* Sensitization to hair tonics, spray net, hair straighteners, hair wave solution, sham

poor perfume, and many other agents applied to the hair or scalp.

**Histopathology** Edema of the epidermis and upper cutis. Perivascular round cell infiltration in the upper cutis.

**Diagnostic aids.** History and physical examination patch tests to the suspected sensitizing substance.

**Relation to systemic disease** None usually.

**Differential diagnosis.** Seborrheic dermatitis; pruritus, fungus infection.

**Therapy** Determination and removal of the causative factor. If secondary pyrogenic infection is present use warm boric acid or saline compresses, followed by the use of a steroid-antibiotic ointment. Barrow's solution, 1:12, used as cold wet dressings for one-half hour several times daily. If secondary pyrogenic infection is absent, the use of a plain steroid ointment or lotion will produce a satisfactory result.

## Fa n

**Synonym** Tinea favosa.

**Sites of predilection** Scalp trunk and nails.

**Object symptoms.** In the scalp the lesion begins as a pinkish macule which becomes scaly. Scale formation increases until there are numerous areas of raised cup-shaped (acidula) yellowish or grayish, scaly lesions at the bases of tufts of hair. Eventually diffuse or circumscribed areas of thick scale formation occur. The scalp has a musty or mouldy odor. Removal of the scutula exposes an atrophic scarred area which is permanently bald.

The nail plates become distorted, thickened, and friable. Underlying the plates there is grayish or brownish, hyperkeratotic and caseous material. Permanent distortion of the involved nail bed occurs.

**Subject symptoms** Mild to moderate itching.

**Etiology** *Trichophyton arthrosporum*. The condition is found among immigrants from Slavio countries. There are foci in West Virginia and Kentucky. There is also a focus in Canada.

**Pathology** Histopathologic changes depend on the clinical manifestation.

**Diagnostic aids.** Culture on Sabouraud medium. Examination of a direct preparation using

20 per cent potassium hydroxide or the ink potassium hydroxide stain.

**Relation to systemic disease** None.

**Differential diagnosis** Seborrheic dermatitis; *porri-* *aria*; tinea tonsurans; impetigo contagiosa.

**Therapy** X-ray epilation may stop the progress of the disease in the scalp. Nail lesions are resistant to treatment. Griseofulvin may be of value on systemic administration.

## Folliculitis Decal an

**Synonym.** Quinquand's disease.

**Sites of predilection.** Scalp.

**Objective symptoms.** The condition begins with the development of small, reddish follicular papulopustules. A hair usually protrudes through each of the follicular lesions. As the pustules dry the crust and hair fall out leaving a thin atrophic scar. In advanced cases there are few to numerous, round or irregular bald areas, in which the surface is a shiny pinkish or whitish scar without follicular orifices. Active follicular pustules are usually present in the margins of the bald areas. The alopecia produced by this process is permanent.

**Subjective symptoms.** Moderate to intense itching.

**Etiology** *Staphylococci*.

**Histopathology** Not diagnostic.

**Diagnostic aids.** Cultures must be made to rule out searring fungus infections of the scalp. Cultures on blood agar and disc or tube dilution sensitivity test should be done.

**Relation to systemic disease** No specific relationship.

**Differential diagnosis.** Favus lupus erythematosus; alopecia areata. *Trichophyton tonsurans* or *Trichophyton violaceum* infection.

**Therapy** Treatment of the pyrogenic infection. Systemic antibiotic therapy may be of value.

## Fragilita Crinium

**Synonym.** None.

**Sites of predilection** Scalp.

**Object symptoms.** The hair is lustreless and greatly diminished in quantity. There is splitting or fragility of the hair shaft. The hair splits at the distal end of the shaft.

**Subjective symptoms** The hair feels dry and lustre-

less to the patient and there may be delusions of parasitosis.

**Etiology** Endocrine dysfunction, dietary deficiency, and trauma caused by excessive washing and brushing are all contributing factors.

**Histopathology** The hair is split at the distal end.

**Diagnostic aids** Microscopic examination of the hair history and physical examination of the patient, basal metabolic rate and protein-bound iodine tests should be done.

**Relation to systemic disease** Endocrine dysfunction and dietary deficiencies are associated systemic illnesses.

**Differential diagnosis** Emotional tension, other atrophic hair disturbances.

**Therapy** Avoid strenuous brushing and washing. Use of a hair dressing containing oil or lanolin. Keep the hair relatively short.

### **Hypertrichosis**

**Synonym** Excessive hair, superfluous hair.

**Sites of predilection** Face, trunk, and extremities of women.

**Objective symptoms** There is an excessive growth of hair usually occurring on the face. This may consist of a profuse growth of fine down. Occasionally the condition is limited to the mustache area. Coarse dark hair may be intermingled with the fine downy growth. In some women there is a scattered growth of coarse black hairs over the chin and upper lip. If the condition is extensive it may involve the areolae of the nipples and the extremities. If an endocrine disturbance is responsible the hair growth on the abdomen may assume the male pattern.

The condition may be present at birth but most commonly develops after puberty and becomes extensive with the passage of time. In many women the condition begins at the time of the menopause.

**Subjective symptoms** Cutaneous lesion produces no subjective symptoms. The cosmetic defect may be causative of severe mental illness.

**Etiology** The condition may be familial, idiopathic, or caused by some endocrine imbalance.

**Histopathology** Not a specific picture.

**Diagnostic aids** History and physical examination.

17 ketosteroids, blood sugar, basal metabolic rate, protein-bound iodine tests.

**Relation to systemic disease** Ovarian abnormalities, acromegaly, Cushing's disease, adrenocortical hypoplasia caused by the administration of cortisone or its derivatives.

**Therapy** The use of depilatories may be of value. Mechanical removal of the hair by electrolysis or high frequency current is also effective. X-ray epilation is not to be used.

### **Ingrown Hair**

**Synonym** Ili incarnati.

**Sites of predilection** Bearded portion of the face particularly the neck.

**Objective symptoms** The hair in the affected portion grows obliquely and does not penetrate the stratum corneum but extends beneath it causing papules and pustules to develop. On close inspection using a hand lens, the examiner will see the hair growing transversely just beneath the stratum corneum. When the skin surface is broken the hair may be lifted out. Following extraction of the buried hair the papules heal with scar formation.

**Subjective symptoms** Itching.

**Etiology** An inherent defect in hair follicle direction becoming apparent in adolescence or early adult life when shaving becomes a necessity.

**Histopathology** The follicles in the involved area are distorted and in some instances form an acute angle with the skin surface.

**Diagnostic aids** Biopsy.

**Relation to systemic disease** None.

**Differential diagnosis** Folliculitis, syccosis vulgaris.

**Therapy** Manual epilation of the hairs in the involved areas. Permanent removal of the hair by the use of electrolysis or high frequency current is frequently of value. X-ray therapy is of no value.

### **Keratosis Seborrhoeica**

**Synonym** Senile warts.

**Sites of predilection** Scalp, face, and back.

**Objective symptoms** The benign superficial epidermal tumor usually affects persons beyond the age of 30. The lesions develop on well

defined, flat-topped, grayish, brownish or blackish papules or tumors, which vary in size from 5 mm. to 2 to 3 cm. in diameter. The lesions are round or oval in shape, usually sessile but occasionally pedunculated, and are covered with an oily film. They are few to numerous and may persist indefinitely without change.

*Subjective symptoms.* None or slight itching.

*Etiology.* Unknown.

*Histopathology.* The acanthotic epidermis is papillomatous. The papillae of the cutis are elongated.

*Diagnostic aids.* Biopsy.

*Relation to systemic disease.* None usually.

*Differential diagnosis.* Melanoma, sebaceous adenoma, epithelioma.

*Therapy.* Removal of the lesion by light desiccation under procaine anesthesia.

### Lepthri

*Synonym.* Trichomycosis axillaris.

*Sites of predilection.* Axillae.

*Objective symptoms.* There are yellow, red or black concretions on the hair shafts. The individual lesions resemble the ova of pediculosis.

*Subjective symptoms.* None.

*Etiology.* Various organisms have been considered as causative agents but there is no definite proof.

*Histopathology.* The concretions on the hair shafts are formed of masses of microorganisms in a homogeneous waxy substance resembling chitin.

*Diagnostic aid.* Microscopic examination of the mass of dead hair.

*Relation to systemic disease.* None.

*Differential diagnosis.* Pediculosis, fungus infection.

*Therapy.* Wash the axillae and cleanse the skin with mild soap.

### Lupus Erythematosus

*Synonym.* None.

*Sites of predilection.* Scalp, face and other areas.

Read the description of lupus erythematosus in the chapter on Macular Eruptions.

*Objective symptoms.* The scalp lesions consist of

one or more round or irregular discrete or confluent depressed, atrophic scarred areas which are devoid of hair. Follicular plugging may be observed at the margin of the lesion. The edges of the scarred area are usually pink and the central portion white. The baldness is permanent. There are usually other lesions of lupus erythematosus associated with the scalp lesions.

*Subjective symptoms.* Itching or burning.

*Etiology.* Unknown.

*Histopathology.* See the discussion on lupus erythematosus in the chapter on Macular Eruptions.

*Diagnostic aids.* See the discussion on lupus erythematosus in the chapter on Macular Eruptions.

*Relation to systemic disease.* Lupus erythematosus is a systemic disease.

*Differential diagnosis.* Fungus folliculitis, decalvans alopecia areata, pseudopelade.

*Therapy.* See the description of lupus erythematosus in the chapter on Macular Eruptions.

### Pediculosis Capitis

*Synonym.* Head lice, bugs.

*Sites of predilection.* Scalp.

*Objective symptoms.* There are few to numerous, minute pearly ovoid bodies which adhere to the hair shafts by a layer of chitin. Live pediculi may be present. Excoriations or pruriginous infection in the scalp on the forehead and the back of the neck are physical signs which may be indicative of pediculosis. The ova (nits) glow with grayish fluorescence when exposed to the Wood light.

*Subjective symptoms.* Intense itching.

*Etiology.* *Pediculus capitis*.

*Histopathology.* Microscopic examination of a hair shaft containing an ovum reveals the parasite within the ovum. The Wood light is an excellent method for finding ova.

*Relation to systemic disease.* None usually.

*Differential diagnosis.* Seborrhea sicca, psoriasis.

*Therapy.* Dust the hair thoroughly with 5 per cent DDT powder to kill the live parasites. Wrap the head in a towel overnight. This same procedure should be repeated in 3 days. DDT will kill the live parasites but will not attack the ova (nits). In order to remove the nits,

less to the patient and there may be delusions of parasitosis.

**Etiology:** Endocrine dysfunction dietary deficiency and trauma caused by excessive washing and brushing are all contributing factors.

**Histopathology:** The hair is split at the distal end.

**Diagnostic aids:** Microscopic examination of the hair history and physical examination of the patient basal metabolic rate and protein bound iodine tests should be done

**Relation to systemic disease:** Endocrine dysfunction and dietary deficiencies are associated systemic illnesses.

**Differential diagnosis:** Emotional tension other atrophic hair disturbances

**Therapy:** Avoid strenuous brushing and washing Use of a hair dressing containing oil or lanolin Keep the hair relatively short

### **Hypertrichosis**

**Synonym:** Excessive hair superfluous hair

**Sites of predilection:** Face trunk and extremities of women

**Objective symptoms:** There is an excessive growth of hair usually occurring on the face This may consist of a profuse growth of fine down Occasionally the condition is limited to the mustache area Coarse dark hair may be intermingled with the fine downy growth In some women there is a scattered growth of coarse black hairs over the chin and upper lip If the condition is extensive it may involve the areolae of the nipples and the extremities If an endocrine disturbance is responsible the hair growth on the abdomen may assume the male pattern

The condition may be present at birth but most commonly develops after puberty and becomes extensive with the passage of time In many women the condition begins at the time of the menopause

**Subjective symptoms:** Cutaneous lesions produce no subjective symptoms The cosmetic defect may be causative of severe mental illness

**Etiology:** The condition may be familial idiopathic or caused by some endocrine imbalance

**Histopathology:** Not a specific picture

**Diagnostic aids:** History and physical examination

17 ketosteroids blood sugar basal metabolic rate protein bound iodine tests

**Relation to systemic disease:** Ovarian abnormalities acromegaly Cushing's disease adrenocortical hypoplasia caused by the administration of cortisone or its derivatives.

**Therapy:** The use of depilatories may be of value

Mechanical removal of the hair by electrolysis or high frequency current is also effective X-ray epilation is not to be used

### **Ingrown Hair**

**Synonym:** Pili incarnati

**Sites of predilection:** Bearded portion of the face particularly the neck

**Objective symptoms:** The hair in the affected portion grows obliquely and does not penetrate the stratum corneum but extends beneath it causing papules and pustules to develop On close inspection using a hand lens the examiner will see the hair growing transversely just beneath the stratum corneum When the skin surface is broken the hair may be lifted out Following extraction of the buried hair the papules heal with scar formation

**Subjective symptoms:** Itching

**Etiology:** An inherent defect in hair follicle direction becoming apparent in adolescence or early adult life when shaving becomes a necessity

**Histopathology:** The follicles in the involved area are distorted and in some instances form an acute angle with the skin surface

**Diagnostic aids:** Biopsy

**Relation to systemic disease:** None

**Differential diagnosis:** Folliculitis necrosis vulgaris

**Therapy:** Manual epilation of the hairs in the involved areas Permanent removal of the hair by the use of electrolysis or high frequency current is frequently of value X-ray therapy is of no value

### **Keratosis: Seborrheic**

**Synonym:** Senile warts

**Sites of predilection:** Scalp face and back

**Objective symptoms:** The benign superficial epidermal tumor usually affects person beyond the age of 50 The lesions develop as well

*Subjective symptoms* None or slight itching.

*Etiology* Unknown.

*Histopathology* Atrophy of the epidermis and its appendages.

*Diagnostic aids* Biopsy

*Relation to systemic disease* None

*Differential diagnosis* Folliculitis decalvans furus lupus erythematosus alopecia areata.

*Therapy* None effective.

### Psoriasis

*Synonym* None

*Sites of predilection* Scalp elbow knees, and trunk.

*Objective symptoms* In the scalp it is frequently difficult to differentiate seborrheic dermatitis from psoriasis, unless there are characteristic lesions on the trunk and extremities.

There are few to numerous, discrete and confluent sharply defined macular lesions, which are covered with profuse silvery or grayish scales. It is difficult to demonstrate bleeding points on the scalp. Annular lesions may be present (see psoriasis in the chapter on Papular Eruptions).

*Subjective symptoms* Mild to moderate itching

*Etiology* Unknown

*Histopathology* There is acanthosis with extension of the rete pegs and dilatation of vessels in the tips of the papillae. Micro abscesses occur in the stratum corneum.

*Diagnostic aid* Biopsy

*Relation to systemic disease* None

*Differential diagnosis* Seborrheic dermatitis furus, fungus infections of the scalp

*Therapy* See psoriasis in the section on Papular Eruptions.

### P edema

*Synonym* Impetigo contagiosa coecogenous dermatitis Boeckhart impetigo

*Sites of predilection* Scalp

*Objective symptoms* The condition begins as a primary pyogenic infection. The initial lesion is a small vesicle or pustule which may surround hair or occur on the scalp between hair follicles. These vesicles or pustules break down and form grayish or yellowish thick, superficial crust which is held in place by the hair. When

the crusts are removed, pus exudes. The eruption may be localized to one or more small areas or it may become quite extensive. Healing is not followed by scar formation or alopecia.

Pyogenic infection may complicate seborrheic dermatitis of the scalp psoriasis, pediculosis and contact dermatitis. If the proderma is secondary to some other eruption, evidence of the primary disease is usually found.

*Subjective symptoms* Moderate to intense itching

*Etiology* In primary pyogenic infections staphylococci and streptococci are found. The condition may develop as a complication of pediculosis capitis seborrheic dermatitis, contact dermatitis or psoriasis. Atopic dermatitis may also be complicated by secondary pyogenic infection.

*Histopathology* There is crust formation caused by pyogenic infection of the epidermis and the upper cutis.

*Diagnostic aids* History and physical examination Wood light examination for fungus infection cultures on blood agar to determine the specific organism.

*Therapy* Use warm saline or boric acid compresses to remove the crusts and follow this with applications of a suitable antibiotic ointment.

### Seborrheic Oseosa

*Synonym* Only skin.

*Sites of predilection* Scalp and face

*Objective symptoms* The face and scalp are exceptionally oily causing the surface to have a shiny appearance. The sebum production in the scalp may be so profuse as to necessitate washing the hair 2 to 3 times weekly.

*Subjective symptoms* Usually none

*Etiology* Excessive endocrine activity

*Histopathology* Dilated sebaceous glands.

*Diagnostic aids* Clinical appearance is characteristic biopsy

*Relation to systemic disease* None

*Differential diagnosis* The condition is characteristic

*Therapy* Frequent cleansing of the face with a bland soap Fontex soap or acetic acid detergent and frequent washing of the scalp with a bland shampoo

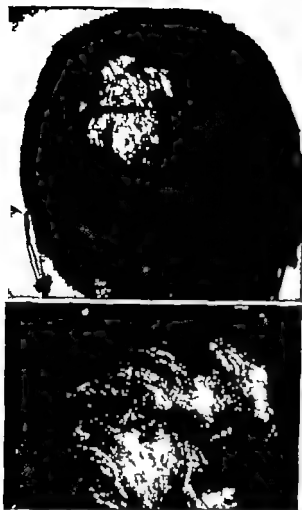


FIG 102 Above Pediculosis capitis complicated by proderma. Numerous ova present on hair shafts. Below Numerous ova present on hair shaft.

soak the hair in 5 per cent acetic acid or white vinegar. Wrap the head in a towel dampened with this solution for several hours. This will soften the chitin (cement substance) which binds the nit to the hair. Comb the hair with a fine-tooth comb and follow this with a thorough shampoo. A 25 per cent emulsion of benzyl benzoate also kills nits.

### Perifolliculitis Abscedens et Suffodiens

**Synonym** Folliculitis of the scalp with scarring alopecia

**Sites of predilection** Scalp

**Objective symptoms** The condition begins as follicular pustules, which develop into multiple abscesses in the scalp. The lesions become deep seated and confluent by burrowing into each other. As the older lesions heal, new lesions

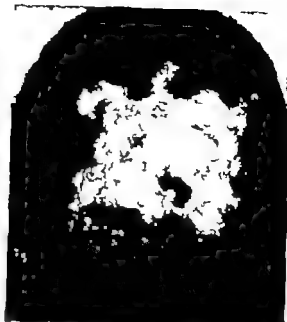


FIG 103 Perifolliculitis abscedens et suffodiens

develop. The healing lesions leave irregular permanently bald scars. Occasionally these patients have associated hidradenitis suppurativa in the axillae and groins.

**Subjective symptoms** Pain in the involved areas.  
**Etiology** Probably an acneiform process. Pyogenic bacteria are contributing factors.

**Histopathology** Scar formation in the areas of alopecia with obliteration of hair follicles. The histopathologic picture in the active nodules is a granulomatous process suggestive of tuberculosis.

**Diagnostic aids** Culture of the exudate disc and tube dilution sensitivity tests for antibiotic selection; general physical examination.

**Relation to systemic disease** No specific relationship.

**Differential diagnosis** Furuncles; folliculitis decalvans.

**Therapy** Systemic administration of the selected antibiotic. Radiation therapy may be of value.

### Pseudopelade

**Synonym** Cicatricial alopecia

**Sites of predilection** Scalp

**Objective symptoms** One or more discrete or confluent areas of baldness with atrophic scarring. The surface may be pinkish or whitish. There is absence of folliculitis.



F 104 *Tinea barbae* Majocchi's granuloma. A granulomatous folliculitis and perifolliculitis caused by *Trichophyton rubrum*.

material are discharged through dilated follicular orifices in the lesions. A single large boggy granulomatous crusted lesion, resembling lesion may develop (Majocchi's granuloma).

**Subjective symptoms.** Intense itching.

**Etiology.** *Microsporum canis*, *Microsporum fulvum*, *Trichophyton gypseum*, and *Trichophyton crurisiforme*. An occasional case is caused by *Trichophyton rubrum*.

**Histopathology.** There is an action of the hair shaft within the follicle by the offending fungus.

There is also folliculitis and perifolliculitis and an infiltrate of polymorphonuclear leukocytes.

**Diagnostic aids.** History and physical examination. Use of the potassium hydroxide stain and culture on Sabouraud medium to identify the offending organism. biopsy.

**Relation to systemic disease.** None.

**Differential diagnosis.** *Staphylococcus* folliculitis.

**Therapy.** There is a tendency toward spontaneous resolution of lesions. Warm boracic acid compresses remove the surface detritus, followed by spectrum ointment, terramycin ointment or one of the other antibiotic topical preparations to control the pyogenic infection.

### Tinea Capitis

**Synonym.** Ringworm of the scalp; tinea tonsurans. Sites of predilection: Scalp, neck, and face.

**Major symptoms.** The lesions begin in the scalp

as one or more small pinkish scaly macules which spread peripherally. Because of invasion of the hair cortex by the fungus, the hairs become weak and break off close to the scalp leaving well defined areas of partial alopecia. The mature lesion is well defined, round, discrete or confluent, and covered with an adherent grayish scale. The broken-off hairs in the involved area are lustreless.

Secondary pyogenic infection may develop producing rubbed boggy tender lesions, which are covered with pustules and pus crust. This complication, known as *kerion*, may vary in size from 2 to 10 cm. in diameter.

Lesions composed of concentric rings and an-



F 105 *Tinea capitis* (Below) With secondary infection (Kerion).



### **Seborrheic Dermatitis**

**Synonym** None

**Sites of predilection** Scalp, face, preauricular region, intertriginous areas, pubic area (see seborrheic dermatitis in the chapter on Macular Eruptions)

**Objective symptoms** The condition usually begins in the scalp with variously sized discrete and confluent round or irregular macules which are well defined and covered with a moderate or profuse whitish or yellowish oily scale. There is festoon formation by extension of the lesion beyond the hairline onto the forehead. Annular lesions are present.

**Subjective symptoms** Moderate to intense itching.

**Etiology** Unknown. The condition is frequently associated with tension factors.

**Histopathology** Slight hyperkeratosis and parakeratosis. Moderate acanthosis. There is some cellular and perivascular round cell infiltration in the upper cutis. The picture is not diagnostic.

**Diagnostic aids** Use of the Wood light, culture on Sabouraud's medium to exclude fungus infection.

**Relation to systemic disease** None usually.

**Differential diagnosis** It is frequently difficult to differentiate seborrheic dermatitis from psoriasis when the lesions occur only in the scalp. The confusion which exists between these two conditions has caused the development of the term *seborrheic psoriasis*.

**Therapy** Selsun, Sebulex, Capreol and Forlex may be of value. Sulfur and salicylic acid (2.5 per cent) ointment is usually effective. Resorcin salicylic scalp lotion and Seba-Nil are also effective. Low fat diet may be indicated.

### **Sycosis Vulgaris**

**Synonym** Barber's itch

**Sites of predilection** Bearded portion of the face.

**Objective symptoms** The primary lesion is a deep-seated follicular papule or pustule pierced by a hair. In the older pustular lesions the hairs become loosened in the follicle and may be easily extracted. The condition is chronic and recurrent. Some papules and pustules undergo involution but new lesions constantly develop. Scar formation may develop and become extensive.

The onset of the condition may be preceded by a contact dermatitis. In chronic cases there is frequently associated blepharitis and folliculitis.

**Subjective symptoms** Itching.

**Etiology** Staphylococci may be inoculated by poor shaving hygiene or secondary pyogenic infection may complicate allergic contact dermatitis.

**Histopathology** There is a primary follicular infection and perifollicular involvement as well. The inflammatory infiltrate consists of round cell and polymorphonuclear leukocytes.

**Diagnostic aids** Biopsy, culture on blood agar disc and tube dilution sensitivity tests for antibiotic selection. Culture should be made on Sabouraud's medium to rule out fungus infections.

**Relation to systemic disease** None usually.

**Differential diagnosis** Tinea sycosis.

**Therapy** Correct shaving hygiene. Avoid the use of perfumed after-shave lotions and shaving creams containing sensitizing antiseptics. Wash the face thoroughly before and after shaving. Wash and dry the razor before storing. Immediately after shaving compress the face with warm boric acid solution and follow with an application of spectrocin ointment, terramycin ointment or some other suitable antibiotic preparation. In resistant cases, systemic antibiotic therapy may be necessary. A wet treatment may be of value in chronic cases.

### **Tinea Barbae**

**Synonym** Tinea sycosis, barber's itch

**Sites of predilection** Bearded portion of the face.

**Objective symptoms** A superficial lesion similar to ringworm infection on other parts of the body develops as a discrete round pinkish occasionally annular scaly macule. The lesion may develop as concentric rings. The hair follicles are involved and the infected hairs, which become dry and brittle, are easily extracted.

The deep type of tinea barbae develops on the skin beneath the lower lip on the upper lip on the jaw or on the neck just below the jaw. The condition may begin as the superficial type and eventually develop deep-seated papules and pustules. The lesions are round or oval, bright red and covered with broken-off hairs. The nodules may ulcerate. Pus and seropurulent

*Etiology* Unknown.

*Histopathology* Examination of the nodes reveals longitudinal splitting of the hair shaft producing a formation which resembles two small paint brushes pushed together end to end.

*Diagnostic aids.* Microscopic examination of the hair.

*Relation to systemic disease* None usually.

*Differential diagnosis.* Other idiopathic atrophy of the hair.

*Therapy* None.

### Trichotillomania

*Synonym.* None.

*Sites of predilection.* Scalp.

*Objective symptoms.* This type of baldness is self-inflicted. The patient forcibly extracts or twists

the hair. There are one or more, small or large irregular areas of baldness without evidence of any active inflammatory process. The remaining hair in these areas of incomplete baldness varies in length from 1 mm. to 1 cm. in length.

*Subjective symptoms.* Those produced by the mental aberrations of the patient.

*Etiology* Mental illness or emotional instability.

*Histopathology* Not a specific picture.

*Diagnostic aids.* History, physical examination, psychoanalysis.

*Relation to systemic disease.* Mental illness, emotional instability.

*Differential diagnosis.* Alopecia areata, alopecia prematura, tinea capitis.

*Therapy.* Psychotherapy.

nular lesions may appear on the scalp, face or neck.

**Subjective symptoms.** The dry, scaly lesions may cause mild itching. The lesions of kerion cause severe pain.

**Etiology.** This contagious disease is most commonly caused by *Microsporum audouinii* (human type) or *Microsporum canis* (animal type). *M. canis* infects cats, dogs, and monkeys and is transmitted to humans. *Trichophyton tonsurans* and *Trichophyton violaceum* also cause ringworm of the scalp.

**Histopathology.** The ectothrix organisms (*M. audouinii* and *M. canis*) as well as the other organisms begin invasion of the hair root within the follicle. The cortex of the hair is weakened by the invasion. On examination of a wet preparation using potassium hydroxide or the ink-potassium hydroxide stain, hyphae and spores may be found throughout the hair.

**Diagnostic aids.** The Wood light is valuable in the diagnosis of tinea capitis caused by *M. audouinii* and *M. canis*. The hair in the affected area glows with a bluish-green fluorescence when exposed to this light. The Wood light is of no value in tinea capitis caused by other organisms.

Direct examination of hair using 20 per cent potassium hydroxide or the ink-potassium hydroxide stain will establish the fungus origin of the disease in a few minutes.

Culture on Sabouraud's medium is essential to identify the specific offending organism.

**Relation to systemic disease.** None.

**Differential diagnosis.** Seborrheic dermatitis, pediculosis.

**Therapy.** In order to comply with health department regulations, the child's hair should be shaved or closely clipped. The child should wear a washable cap at all times.

There is no satisfactory commercially available topical fungicide for the treatment of these patients. Ammoniated mercury ointment (3 per cent), Saluidek, and 5 per cent sulfur-salicylic acid ointment may be used.

Any epilation of the scalp for tinea capitis which has become obsolete with the introduction of Griseofulvin must be performed by someone who is qualified to do this type of work.

Griseofulvin, an antifungal antibiotic administered systemically, cures tinea capitis.

### Trichorrhexis Nodosa

**Synonym.** None.

**Sites of predilection.** Scalp.

**Objective symptoms.** There is diminution of hair in the involved area. The lesion may be circumscribed or universal. The condition most commonly occurs in the scalp but may involve the ears, the axillae, or the pubic area. There is longitudinal splitting of the hair shaft at intervals producing the minute grayish nodes observed on gross examination. Several nodes may develop on a single hair. Hair fracture easily on slight trauma.

**Subjective symptoms.** None.

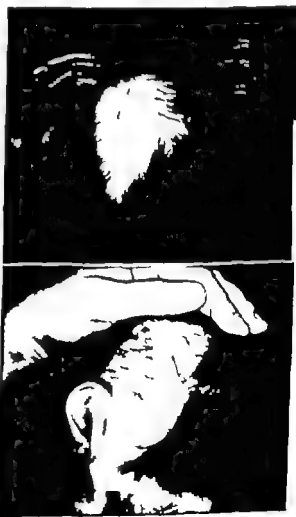


FIG. 100 Trichotilloma.

**Histopathology** Hyperkeratosis and acanthosis. There is vascular dilatation of the papillary portion of the cutis and a perivascular round and plasma cell infiltrate.

**Diagnostic aids.** History and physical examination patch tests search for foci of infection.

**Relation to systemic disease.** The condition may indicate atopic dermatitis.

**Differential diagnosis.** Erythema multiforme bullosum.

**Therapy.** Search for and remove the causative factor. Topical steroid therapy is frequently of value. Radiation with Grenz rays may be beneficial. Conventional x-ray therapy should be avoided.

### Cheilitis Glandularis

**Synonym.** None

**Sites of predilection.** Lips

**Objective symptoms.** There is swelling of the lips caused by enlargement of the mucous gland. Over the mucous surfaces of the lips there are widely dilated openings of the mucous glands and constant exudation of mucus. Mucous glands are readily palpable and feel like small pebbles. When pressure is applied mucus extrudes through the openings. There may be associated enlargement of the mucous glands of the buccal and pharyngeal mucosa.

**Subjective symptoms.** Patients complain of a "sleaky" feeling about the lips.

**Etiology.** Unknown

**Histopathology.** Enlargement of the mucous glands and widely dilated mucous gland duct.

**Diagnostic aids.** History and physical examination biopsy.

**Relation to systemic disease.** None usually.

**Differential diagnosis.** Clinical appearance is characteristic.

**Therapy.** None effective.

### Cyst (Retention) of the Mucous Membrane

**Synonym.** None

**Sites of predilection.** Lips, tongue and buccal mucosa.

**Objective symptoms.** The lesions are usually single, non-tender, raised, non-inflamed, fluctuant



F 107 Mucus retention cyst

cysts. They are shiny and covered with normal mucous membrane. They vary in size from 3 to 5 mm in diameter and contain a clear, thick fluid.

**Subjective symptoms.** None

**Etiology.** Caused by closure of the mucous gland duct by trauma. Lip biting may be a causative factor.

**Histopathology.** A dilated mucous cyst.

**Diagnostic aids.** Biopsy.

**Relation to systemic disease.** None

**Differential diagnosis.** Tumor of any type which may occur on the lips.

**Therapy.** Destruction of the cyst by electrocoagulation.

### Fordyce's Disease

**Synonym.** None

**Sites of predilection.** Lips and buccal mucosa, labia minora, penis, and areolae of the nipples.

**Objective symptoms.** There are few to numerous discrete, grouped or confluent whitish or yellowish, noninflammatory flat lesions. The condition may be extensive.

**Subjective symptoms.** None.

**Etiology.** Unknown.

**Histopathology.** The lesions are anomalous sebaceous glands.

**Diagnostic aids.** Biopsy.

**Relation to systemic disease.** None

**Differential diagnosis.** Leukoplakia, lichen planus.

## Chapter 20

# LESIONS INVOLVING THE MUCOUS MEMBRANES

### Burning Tongue

*Synonym* Clossodynia

*Sites of predilection* Tongue

*Objective symptoms* There are no visible objective lesions

*Subjective symptoms* This condition which commonly occurs in men and women beyond middle age produces severe burning pain. The subjective symptoms may be limited to the front half the tongue and occasionally are unilateral.

*Etiology* Unknown. Emotional tension or some underlying systemic disease may be the causative factor.

*Histopathology* No change noted.

*Diagnostic aids* History and physical examination adequate laboratory studies to rule out systemic disease.

*Relation to systemic disease* Pernicious anemia, hypochromic anemia, and avitaminoses may give rise to this symptom. Paraneuroses are frequently the causative factor.

*Differential diagnosis* There is no visible abnormality.

*Therapy* Usually unsuccessful. Search for and remove the underlying cause. Treat the systemic disease present.

### Cheilitis Actinic

*Synonym* Cheilitis caused by sun exposure

*Sites of predilection* Vermilion surfaces of the lips

*Objective symptoms* There is edema of the lips and the vermillion border presents a dry, crusted and scaly appearance with radial fissures. In

sailors, farmers, and other individuals who are constantly exposed to sunlight the vermillion surface becomes pale, excessively dry and covered with an adherent scale. Keratosis frequently develop.

*Subjective symptoms* Discomfort because of the excessive dryness.

*Etiology* Constant exposure to sunlight without adequate protection.

*Histopathology* Hyperkeratosis with atrophy of the epidermis and senile elastosis in the cutis.

*Diagnostic aids* Biopsy, history and physical examination.

*Relation to systemic disease* None usually.

*Differential diagnosis* Cheilitis exfoliativa, chronic contact dermatitis.

*Therapy* Adequate protection from constant exposure to sunlight. Use of sun screen cream. Removal of keratosis when they develop.

### Cheilitis Exfoliativa

*Synonym* Exfoliative dermatitis of the lips, cheilitis exfoliativa

*Sites of predilection* The vermillion border of the lips is exceptionally dry and covered with a slightly thickened chronically inflamed scaling mucous membrane. Radial fissures are frequently present.

*Subjective symptoms* Pain. Discomfort is especially marked when liquid or foods are passed over the lips into the mouth.

*Etiology* Unknown. The condition may be associated with atopic eczema or may be evidence of chronic contact sensitivity.

acute course. The lesions ultimately disappear and leave no trace. The condition is recurrent.

*Subjective symptoms.* None or slight discomfort

*Etiology.* Unknown. May be associated with tension factors.

*Histopathology.* Acanthosis and parakeratosis, with edema of the rete. There is perivascular round-cell infiltration and a slight chronic inflammatory infiltrate in the upper cutis.

*Diagnostic aids.* The clinical appearance is diagnostic.

*Relation to systemic disease.* None

*Differential diagnosis.* Leukoplakia secondary syphilis erythema multiforme

*Therapy.* Preserve good dental hygiene. Grenz ray therapy may be of value.

### Leukoplakia

*Synonym.* None

*Sites of predilection.* Tongue buccal mucosa, and genital area.

*Objective symptoms.* The lesions are sharply defined, round, oval or irregular slightly raised, white or grayish, slow growing, hyperkeratotic areas. The surface may not be removed by scraping. The lesions are irregular hyperkeratotic and noninflammatory. Fissures may develop. These lesions are frequently precancerous.

*Subjective symptoms.* Some discomfort because of the presence of the hyperkeratotic lesion. Other symptoms may develop depending on the extent of the lesion.

*Etiology.* The oral lesions may be postinflammatory due to poor dental hygiene or associated with excessive smoking. Genital lesion of leukoplakia may develop in association with lichen sclerosus et atrophicus (Kraurosis vulvæ).

*Histopathology.* Hyperkeratosis and acanthosis with the formation of dyskeratotic cells.

*Diagnostic aids.* Biopsy

*Relation to systemic disease.* The lesions are frequently precancerous.

*Differential diagnosis.* Lichen planus lupus erythematosus syphilis

*Therapy.* Remove the irritating cause. Discontinue smoking. The lesion may be removed by excision, desiccation, or radiation therapy.

### Lichen Planus

*Synonym.* None.

*Sites of predilection.* Buccal mucosa, flexor surfaces of the forearm male genitalia and lower extremities. The lesions may occur only in the mouth.

*Objective symptoms.* Well defined, reticulated white lines, plaques or slightly elevated, smooth, whitish papules. Single white lines may appear on the buccal mucous membrane. These lesions may be the only objective sign of lichen planus or there may be associated lesions elsewhere (see the description of lichen planus in the chapter on Papular Eruptions).

*Subjective symptoms.* None

*Etiology.* Unknown. Related to emotional tension or shock.

*Histopathology.* There is a well defined round cell infiltrate in the papillary portion of the cutis. There is regular acanthosis and hyperkeratosis.

*Diagnostic aids.* Biopsy

*Relation to systemic disease.* Associated with emotional tension or shock.

*Differential diagnosis.* Leukoplakia syphilis lupus erythematosus.

*Therapy.* Applications of 50 per cent phenol to the lesions may be of value. Bismuth tablets by mouth or intramuscular injection of bismuth subnitrate may be of value.

### Lingua Nigra

*Synonym.* Black hairy tongue

*Site of predilection.* Tongue.

*Objective symptoms.* The lesion which usually appears in the midline of the tongue and may involve the entire central portion is dark brown, black or dark gray. It is composed of hair like projections which are actually prolongations of the papillae. The condition may develop quickly or slowly and is of variable duration.

*Subjective symptoms.* Usually none although the patient may complain of a bad taste in the mouth.

*Etiology.* Unknown. Aureomycin Terramycin and penicillin lozenges have been responsible for the production of these lesions in many patients. Although the development of these lesions has

**Therapy** No treatment is necessary for this benign condition. Patients should be reassured.

### Fusospirochilosis

**Synonym** Trench mouth, Vincent's angina, fusospirochetosis.

**Sites of predilection** Gums, buccal mucosa, pharynx, lips, and tongue. Lesions may also appear on the genitalia.

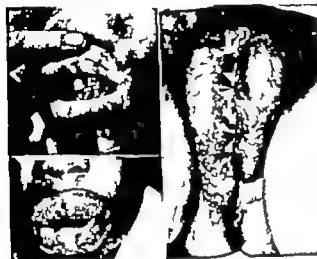


FIG. 108 Fusospirochilosis, lips and vulva.

**Objective symptoms** There are few to numerous, irregular, superficial or deep ulcers which vary in size from a few millimeters to 3 or 4 cm. in diameter. The lesions are covered with an adherent, whitish or greenish membrane. Gums are swollen and bleed on slight trauma. In advanced cases the teeth may be loosened. The breath has a fetid odor. The lymph nodes in the anterior triangles are swollen and tender. There is profuse salivation. Lesions on the genitalia appear as few to numerous, small to large, superficial, irregular ulcers which are covered with a greenish or grayish adherent membrane. The lesions are painful and when the membrane is detached free bleeding occurs.

**Subjective symptoms** Pain.

**Etiology** *Spirochaeta vincenti* and fusiform bacilli. This is a contagious disease. Pellagra and other debilitating diseases are predisposing factors in the development of fusospirochilosis.

**Histopathology** There is edema of the superficial layers of the mucous membranes and evidence of an acute inflammatory process.

**Diagnostic aids** Dark field examination of the exudate from the ulcers.

**Relation to systemic disease** Pulmonary infection may occur.

**Differential diagnosis** Diphtheria, syphilis, bacterial infections.

**Therapy** Topically applied aqueous or glycerine solutions of neocartaphenamine may be of value. Systemically administered penicillin is very effective. Locally hygienic measures are important.

### Geographic Tongue

**Synonym** Transitory benign migrating plaques.

**Sites of predilection** Tongue.

**Objective symptoms** The condition begins as one or more small, sharply defined, grayish or yellowish, arcuate areas which spread peripherally, producing asymptomatic, superficial, bizarre geographical figures which are reddish in color and may or may not have slightly raised, grayish or yellowish borders. The papillae are flattened. Concentric rings may be formed, or two or more patches may become confluent, producing polycyclic figures. The condition has an



FIG. 109 Geographic tongue.

acute course. The lesions ultimately disappear and leave no trace. The condition is recurrent.

*Subjective symptoms.* None or slight discomfort.

*Etiology.* Unknown. May be associated with tension factors.

*Histopathology.* Acanthosis and parakeratosis with edema of the rete. There is perivascular round-cell infiltration and a slight chronic inflammatory infiltrate in the upper cutis.

*Diagnostic aids.* The clinical appearance is diagnostic.

*Relation to systemic disease.* None.

*Differential diagnosis.* Leukoplakia, secondary syphilis, erythema multiforme.

*Therapy.* Preserve good dental hygiene. Grenz ray therapy may be of value.

### Leukoplakia

*Synonym.* None.

*Sites of predilection.* Tongue, buccal mucosa and genital area.

*Objective symptoms.* The lesions are sharply defined, round, oval or irregular, slightly raised, white or grayish, slow growing, hyperkeratotic area. The surface may not be removed by scraping. The lesions are irregular, hyperkeratotic and noninflammatory. Fissures may develop. These lesions are frequently precancerous.

*Subjective symptoms.* Some discomfort because of the presence of the hyperkeratotic lesion. Other symptoms may develop depending on the extent of the lesion.

*Etiology.* The oral lesions may be postinflammatory due to poor dental hygiene or associated with excessive smoking. Genital lesions of leukoplakia may develop in association with lesions of *Microsporus* or *atrophicus* (leucosis vulvae).

*Histopathology.* Hyperkeratosis and acanthosis with the formation of dyskeratotic cells.

*Diagnostic aids.* Biopsy.

*Relation to systemic disease.* The lesions are frequently precancerous.

*Differential diagnosis.* Lichen planus, lupus erythematosus, syphilis.

*Therapy.* Remove the irritating cause. Discontinue smoking. The lesion may be removed by excision, debridement or radiation therapy.

### Lichen Planus

*Synonym.* None.

*Sites of predilection.* Buccal mucosa, flexor surfaces of the forearms, male genitalia and lower extremities. The lesions may occur only in the mouth.

*Objective symptoms.* Well defined, reticulated white lines, plaques or slightly elevated smooth, whitish papules. Single white lines may appear on the buccal mucous membrane. These lesions may be the only objective sign of lichen planus or there may be associated lesions elsewhere (see the description of lichen planus in the chapter on Papular Eruptions.)

*Subjective symptoms.* None.

*Etiology.* Unknown. Related to emotional tension or shock.

*Histopathology.* There is a well defined round cell infiltrate in the papillary portion of the cutis. There is regular acanthosis and hyperkeratosis.

*Diagnostic aids.* Biopsy.

*Relation to systemic disease.* Associated with emotional tension or shock.

*Differential diagnosis.* Leukoplakia, syphilis, lupus erythematosus.

*Therapy.* Application of 0.5 per cent phenol to the lesions may be of value. Bismuth tablets by mouth or intramuscular injections of bismuth subnitrate may be of value.

### Lingua Nigra

*Synonym.* Black hairy tongue.

*Sites of predilection.* Tongue.

*Objective symptoms.* The lesion, which usually appears in the midline of the tongue and may involve the entire central portion, is dark brown, black or dark gray. It is composed of hair-like projections which are actually prolongations of the papillae. The condition may develop quickly or slowly and is of variable duration.

*Subjective symptoms.* Usually none, although the patient may complain of a bad taste in the mouth.

*Etiology.* Unknown. Aureomycin, Terramycin and penicillin troches have been responsible for the production of these lesions in many patients. Although the development of these lesions has





FIG. 110 Lingua nigra

been attributed to pathogenic yeasts or other fungi; no specific organism has been consistently identified.

**Histopathology** The papillae are hyperkeratotic and hypertrophied.

**Diagnostic aids** History and physical examination; cultures on Sabouraud's medium; biopsy.

**Relation to systemic disease** None.

**Differential diagnosis** Condition is characteristic in appearance.

**Therapy** Reassure the patient that it is not a serious systemic disease; good dental hygiene; mouth washes.

### Lupus Erythematosus

**Synonym** None.

**Sites of predilection** Buccal mucosa and other parts of the body. See the description of lupus erythematosus in the chapter on Macular Eruptions.

**Objective symptoms** The lesions on the buccal mucosa are well defined, whitish plaques which are slightly thickened and have an irregular surface. The lesion is not a membrane and is not easily removed. Ulcers may develop.

**Subjective symptoms** None.

**Etiology** Unknown.

**Histopathology** There is atrophy of the mucous membrane and slight perivascular infiltration in the upper layers of the cutis.

**Diagnostic aids** Biopsy; history and physical ex-

amination; the presence of lesions on other parts of the body; blood studies.

**Relation to systemic disease** Lupus erythematosus is a systemic disease.

**Differential diagnosis** Leukoplakia; moniliasis; lichen planus; syphilis.

**Therapy** Antimalarial drugs in discoid lupus erythematosus; systemic steroid therapy in systemic lupus erythematosus; good oral hygiene.

### Moniliasis

**Synonym** Thrush; candidiasis.

**Sites of predilection** Mouth, genitoanal region and other areas. See moniliasis in the chapter on Macular Eruptions.

**Objective symptoms** On the tongue or buccal mucosa there are discrete or confluent whitish spots which form a membrane resembling curdled milk. Forceful removal of this membrane produces bleeding. Similar lesions may be found in the vagina and under the prepuce. Between the thighs the lesions appear as a whitish film. For a more complete description of these and other lesions read the description of moniliasis in the chapter on Macular Eruptions.

**Subjective symptoms** Depend on the extent of involvement. Symptoms may be absent or the patient may have pain.

**Etiology** *Candida albicans*.

**Diagnostic aids** See the description of moniliasis in the chapter on Macular Eruptions.

**Histopathology** See the description of moniliasis in the chapter on Macular Eruptions.

**Relation to systemic disease** See the description of moniliasis in the chapter on Macular Eruptions.

**Differential diagnosis** Leukoplakia; lichen planus; syphilis.

**Therapy** See the description of moniliasis in the chapter on Macular Eruption.

### Syphilis Early Mucous Membrane Lesion

**Synonym** Mucous patches; condylomata lata; split papules; chancre.

**Sites of predilection** Mucous membranes of the mouth, genitalia and anus.

**Objective symptoms** 1. Chancre. Over 90 per cent of all initial lesions occur on the genitalia. In the remaining 5 per cent the lesions may be

found on the tongue buccal mucosa lips, nipples fingers and elsewhere. The initial lesion is usually a single well defined markedly infiltrated ulcer with an eroded crusted surface. Multiple chancre are unusual. The clinical appearance of the lesion is altered because of the location.

**Mucous erosive lesions (mucous patch)**  
These simple erosions are oval or round, varying in size from 1 to 2 cm in diameter. They are well defined, superficial reddish or grayish and do not have any inflammatory areola. The lesions may be elevated, infiltrated, and covered with a grayish or whitish membrane.

**3 Hypertrophic eroded papules (condylo-mata lata)** These lesions, which are found between apposing surfaces, are well-defined, flat topped papules varying in size from 5 mm to 2 cm in diameter. The surface is covered with a grayish or whitish, moist membrane.

**4 Split papules** These lesions which occur at the commissures of the lips are reddish papules in which there is a central split or fissure. The fissure is covered with a grayish or whitish membrane.

**Subjective symptoms** Vary from none to moderate pain.

**Etiology** *Treponema pallidum*. All of these are most lesions of early syphilis and the spirochaetes may be demonstrated from any of them by dark field examination.

**History of pathology** See the chapter on Venereal Diseases.

**Diagnosis and** see the chapter on Venereal Diseases.

**Differential diagnosis** Aphthous stomatitis leucoplakia diphtheria leukoplakia.

**Therapy** see the chapter on Venereal Diseases.

**Syphilis Lat Mucous Membrane Lesions**

**Synonym** See syphilis; the chapter on Venereal Diseases.

**Site of predilection** Mucous membranes of the oropharynx and the tongue.

**Object symptoms** The lesions are single or multiple excavated or punched-out ulcer. The base of the ulcer may be covered with a grayish-green membrane but there is little or no dis-

charge. These lesions are destructive and may distort the entire pharynx. Such lesions occurring on the nasal mucosa produce perforation of the nasal septum.

When the tongue is involved by late syphilis, a solitary gumma may develop or because of the dense inflammatory infiltration and subsequent healing, the tongue may become hard smooth, thickened and scarred.

**Subjective symptoms.** Little or no pain.

**Etiology** This is a late manifestation of syphilis (gumma).

**Histopathology** See syphilis in the chapter on Venereal Diseases.

**Diagnostic aids.** See syphilis in the chapter on Venereal Diseases.

**Relation to systemic disease** This is a systemic disease. See syphilis in the chapter on Venereal Diseases.

**Differential diagnosis** Aphthous stomatitis geographical tongue leucoplakia.

**Therapy** See syphilis in the chapter on Venereal Diseases.

## Noma

**Synonym** Cancrum oris.

**Site of predilection** Mouth.

**Object symptoms** This condition which is usually unilateral may begin as ulcerative stomatitis, or it may begin with the appearance of a small bleb. The lesions become gangrenous progress rapidly and form large excavated, necrotic ulcers with irregular undermined mar-



FIG 111 Noma



FIG. 110 Lingua nigra

been attributed to pathogenic yeasts or other fungi; no specific organism has been consistently identified.

**Histopathology** The papillae are hyperkeratotic and hypertrophied.

**Diagnostic aids** History and physical examination; cultures on Sabouraud's medium; biopsy.

**Relation to systemic disease** None.

**Differential diagnosis** Condition is characteristic in appearance.

**Therapy** Reassure the patient that it is not a serious systemic disease; good dental hygiene; mouth washes.

### Lupus Erythematosus

**Synonym** None.

**Sites of predilection** Buccal mucosa and other parts of the body. See the description of lupus erythematosus in the chapter on Macular Eruptions.

**Objective symptoms** The lesions on the buccal mucosa are well defined, whitish plaques which are slightly thickened and have an irregular surface. The lesion is not a membrane and is not easily removed. Ulcers may develop.

**Subjective symptoms** None.

**Etiology** Unknown.

**Histopathology** There is atrophy of the mucous membrane and slight perivascular infiltration in the upper layers of the cutis.

**Diagnostic aids** Biopsy; history and physical ex-

amination; the presence of lesions on other parts of the body; blood studies.

**Relation to systemic disease** Lupus erythematosus is a systemic disease.

**Differential diagnosis** Leukoplakia; moniliasis; lichen planus; syphilis.

**Therapy** Antimalarial drugs in discoid lupus erythematosus; systemic steroid therapy in systemic lupus erythematosus; good oral hygiene.

### Moniliasis

**Synonym** Thrush; candidiasis.

**Sites of predilection** Mouth; genitocrural region; and other areas. See moniliasis in the chapter on Macular Eruptions.

**Objective symptoms** On the tongue or buccal mucosa there are discrete or confluent whitish spots which form a membrane resembling curdled milk. Forceful removal of this membrane produces bleeding. Similar lesions may be found in the vagina and under the prepuce. Between the thighs the lesions appear as a whitish film. For a more complete description of these and other lesions read the description of moniliasis in the chapter on Macular Eruptions.

**Subjective symptoms** Depend on the extent of involvement. Symptoms may be absent or the patient may have pain.

**Etiology** *Candida albicans*.

**Diagnostic aids** See the description of moniliasis in the chapter on Macular Eruptions.

**Histopathology** See the description of moniliasis in the chapter on Macular Eruptions.

**Relation to systemic disease** See the description of moniliasis in the chapter on Macular Eruptions.

**Differential diagnosis** Leukoplakia; lichen planus; syphilis.

**Therapy** See the description of moniliasis in the chapter on Macular Eruption.

### Syphilis Early Mucous Membrane Lesion

**Synonym** Mucous patches; condylomata lata; split papules; chancre.

**Sites of predilection** Mucous membranes of the mouth, genitalia, and anus.

**Objective symptoms** 1. Chancre. Over 90 per cent of all initial lesions occur on the genitalia. In the remaining 10 per cent the lesions may be

discrete and confluent sharply defined shallow ulcers, which vary in size from 2 mm. to 2 cm. in diameter. Individual ulcers have a central, yellowish-white basement membrane and are surrounded by a bright red areola. The lesions may be few or numerous and, if extensive cause marked destruction of the mucous membrane. Occasionally these ulcers become gangrenous.

*Subjective symptoms.* The lesions are painful. If the condition is extensive the patient may have difficulty in swallowing. Lesions in the genital area cause difficulty in walking and severe pain on coitus.

*Etiology.* The condition is probably caused by a virus. It is associated with gastric disturbances, febrile illnesses, leukemia and other systemic diseases.

*Histopathology.* Nonspecific.

*Diagnostic aids.* Clinical appearance, history and physical examination.

*Differential diagnosis.* Syphilis, tuberculosis, carcinoma.

*Therapy.* There is no specific treatment. Treatment of the underlying condition is important. Repeated smallpox vaccinations may be of value in the treatment of recurrent attacks.

### Stomatitis Bi-muth or Mercury

*Synonym.* None

*Sites of predilection.* Mouth.

*Objective symptoms.* There is a thin blue or dark gray stippled line which occurs on the gums at the insertion of the teeth, forming a peculiar festooned appearance. The condition is seen on both the buccal and lingual sides of the gums. Occasionally there is redness and swelling of the gums. The tongue may be coated and the breath is usually fetid.

*Subjective symptoms.* Pain may or may not be a symptom.

*Etiology.* Caused by deposits of metallic bismuth or mercury in the gums. There may be associated poor dental hygiene. Heavy metal deposit is probably caused by the patient's idiosyncrasy to the drug.

*Histopathology.* Nonspecific.

*Diagnostic aids.* History and physical examination, clinical appearance.

*Relation to systemic disease.* The condition which necessitated the administration of the heavy metal. Kidney damage may be associated with the bi-muth or mercury line.

*Differential diagnosis.* Fusospirillum.

*Therapy.* Discontinue the drug. Institute proper dental hygiene.

gins The base of the ulcer is usually covered with a thick grayish membranous exudate which when removed leaves a granulomatous surface. The condition may be quite extensive eventually causing a portion of the face to slough.

*Subjective symptoms* Those associated with the underlying systemic disease. Intense pain in the involved area.

*Etiology* The specific etiologic factor is unknown. Predisposing causes are devitalization of the tissue following chemical injury or chronic infection.

*Histopathology* Nonspecific.

*Diagnostic aids* History, physical examination and biopsy.

*Relation to systemic disease* Agranulocytosis, leishmaniasis, measles, avitaminosis.

*Differential diagnosis* Syphilis, carcinoma, tuberculosis.

*Therapy* Treatment is nonspecific. The vast majority of these cases have a poor prognosis. Broad spectrum antibiotic treatment may be of value.

### Pemphigus vulgaris

*Synonym* None

*Sites of predilection* Mucous membranes and other parts of the body. See pemphigus vulgaris in the chapter on Vesicular Eruptions.

*Objective symptoms* On the buccal mucosa the bullae rupture shortly after formation leaving large denuded areas. The condition may be extensive and involve the entire buccal mucosa, the hard and soft palate and the pharynx. The lips are thickened, covered with blood crusts and bullae and are fissured. The female genitalia may show extensive involvement similar in character. The lesions in pemphigus vulgaris may be limited to the mucous membranes or may involve the entire body.

*Subjective symptoms* Pain. Inability to swallow if the mucous membranes are extensively involved. Generalized malaise.

*Etiology* Unknown.

*Histopathology* See pemphigus vulgaris in the chapter on Vesicular Eruptions.

*Diagnostic aids* See pemphigus vulgaris in the chapter on Vesicular Eruptions.

*Relation to systemic disease* Pemphigus vulgaris is a systemic disease.

*Differential diagnosis* Erythema multiforme, bullous dermatitis, herpetiformis, lesions of syphilis.

*Therapy* See pemphigus vulgaris in the chapter on Vesicular Eruptions.

### Perleche

*Synonym* None

*Sites of predilection* Commissures of the lips.

*Objective symptoms* These lesions, which are usually bilateral, are superficial or deep fissures at the commissures. The lesions extend a short distance on to the skin and the mucous membrane. The mucous membrane in the involved area is usually thickened, macerated, and covered with a whitish soggy membrane. There may be an eczematous area on the skin surrounding the fissure which is usually covered with a serous crust or whitish membrane. In extensive cases there may be marked discomfort when the mouth is opened.

*Subjective symptoms* Vary from itching to severe pain.

*Etiology* The condition may be associated with moniliasis, bacterial infections, or nutritional deficiencies.

*Histopathology* Nonspecific.

*Diagnostic aids* Culture for *Candida albicans* on Sabouraud's medium, culture for other organisms on blood agar, history and physical examination.

*Relation to systemic disease* The condition may be associated with moniliasis or avitaminosis.

*Differential diagnosis* The split papule of secondary syphilis.

*Therapy* Mycosef ointment if monilial infection is present. Ammoniated mercury ointment (5 per cent) is also of value. Search for and eliminate irritating factors.

### Stomatitis Aphthosa

*Synonym* Stomach ulcers.

*Sites of predilection* Buccal mucosa, the tongue and the genitalia.

*Objective symptoms* The lesions are variously sized

**Therapy** Restoration of normal hygiene. The use of soap and water will remove the pigment.

### Idi hidrosi

**Synonym** Pompholyx.

**Sites of predilection** Hands and feet.

**Objective symptoms.** The lesions, which are usually located on the palmar and plantar surfaces, in the interdigital spaces and on the dorsal surface of the digits are numerous deep-seated, tense-walled, small vesicles. There is usually absence of any gross inflammatory process. Secondary pyogenic infection may develop or the condition may become eczematized. In addition to the deep-seated small vesicles, tense-walled, deep-seated, small, sterile pustules may develop. Localized areas consisting of numerous small vesicles and pustules may be surrounded by an eczematizing margin.

**Subjective symptoms** Moderate to intense itching. If secondary pyogenic infection develops, pain is the predominating subjective symptom.

**Etiology** The condition may be associated with emotional tension, atopic eczema, focal infection or combination of these factors.

**Histopathology** There is a subepidermal vesicle surrounded by a chronic inflammatory infiltrate.

**Diagnostic aids** Cultures on Sabouraud's medium must be performed to rule out the possibility of a fungus infection. The pustules are usually sterile.

**Relation to systemic disease** The condition may be associated with emotional tension, focal infections, nutritional disturbances or toxic states.

**Differential diagnosis** Epidermophytosis, epidermophyoid contact dermatitis.

**Therapy** Avoid the use of soap, detergents, and other cleansing agents on the hands. Burow's solution (1:40) may be of value in relieving the edema and drying the vesicles. Topical steroid preparations may aid the involution of the lesions. Grenz rays are frequently of value.

### Hidrad with Suppurati

**Synonym** Sweat gland abscesses.

**Sites of predilection** Axillae, groin-to-crural area, perianal region, and areolae of the breasts.

**Objective symptoms.** Few to numerous, deep-seated abscesses occur in the axillae. These lesions, which involve the apocrine sweat glands, are discrete or confluent variously sized fluctuant nodules containing pus. Deep subcutaneous sinuses develop. The lesions heal with dense scar formation.

**Subjective symptoms** Pain.

**Etiology** The precipitating factor may be an allergic contact dermatitis caused by deodorant with subsequent secondary pyogenic infection. Axillary shaving may also initiate the infection. Varieties of staphylococci are the most common causative factors.

**Histopathology** There is cystic dilatation of the deep part of the glands with destruction of the epithelial lining. There is evidence of an acute inflammatory reaction and subcutaneous abscess formation.

**Diagnostic aids** Cultures of the pus on blood agar. Disc and tube dilution sensitivity tests for antibiotic selection.

**Relation to systemic disease** None usually.

**Differential diagnosis.** Clinical picture is characteristic.

**Therapy** Incision and drainage of the large fluctuant lesions. Systemic administration of the antibiotic of choice as determined by disc or tube dilution sensitivity tests. Frequent cleansing of the involved area with warm boracic solution, followed by the application of an antibiotic ointment. Roentgen therapy is seldom of value. If there is any disabling deformity remaining after the acute pyogenic infection has subsided, plastic repair may be necessary.

### Hyperhidrosis

**Synonym.** Excessive sweating.

**Sites of predilection** May be generalized or localized. The lesions may occur on the palms and soles, over the entire body or may be unilateral.

**Objective symptoms.** There is an excessive production of sweat, particularly in times of stress. The condition may appear without apparent cause. On the palms and soles the skin becomes soggy, pale pink in color and appears waterlogged. The feet may become tender.

## Chapter 21

# SWEAT GLAND LESIONS

### Anhidrosis

*Synonym* Absence of sweating

*Sites of predilection* Generalized

*Objective symptoms* The skin is exceptionally dry because of the absence of sweating. This condition is common in ichthyosis, exfoliative dermatitis, congenital ectodermal defect, scleroderma, and roentgen dermatitis. Localized anhidrosis may occur due to lesions in the central nervous system.

*Subjective symptoms* Excessive dryness. These patients cannot tolerate heat.

*Etiology* Unknown. The condition may be associated with a congenital ectodermal defect, ichthyosis, exfoliative dermatitis, extensive psoriasis, and other dermatoses.

*Histopathology* The histopathologic picture is not diagnostic.

*Diagnostic aids* Biopsy.

*Relation to systemic disease* None.

*Differential diagnosis* Related to the conditions productive of the anhidrosis.

*Therapy* There is no curative therapy. Use of lubricating preparations such as Lubiderm and mineral oil may be of value in relieving subjective symptom.

### Bromidrosis

*Synonym* Stinking sweat. B.O.

*Sites of predilection* Feet, axillae, and genital area.

*Objective symptoms* This condition is not usually present until after puberty. The patient who has bromidrosis does not necessarily have excessive perspiration. The odor varies in the same individual from time to time. It may be mildly unpleasant or a strong penetrating stench.

*Subjective symptoms* The patient is not usually aware of the body stench.

*Etiology* The odor may be caused by bacterial contamination or fermentation of apocrine sweat.

*Histopathology* Nonspecific.

*Diagnostic aids* Clinical symptoms are diagnostic.

*Relation to systemic disease* Many systemic diseases such as uremia, carcinoma, and other debilitating illnesses are productive of an unpleasant body odor.

*Differential diagnosis* The odor may be caused by the clothing the patient is wearing, his occupation, etc.

*Therapy* Simple hygiene. The use of deodorant and antiperspirant creams or lotions.

### Chromhidrosis

*Synonym* Colored sweat.

*Sites of predilection* Face, axillae, and genital area.

*Objective symptoms* This is a rare condition characterized by the appearance of colored sweat. In the majority of these cases, some affection of the apocrine sweat glands is responsible for the production of this unusual symptom. The discoloration may be brown, red, green, or black.

*Subjective symptoms* None.

*Etiology* The condition may be caused by the presence of bacteria on the skin surface, colored substances on the skin, or drug ingestion.

*Histopathology* Nonspecific.

*Diagnostic aids* Clinical appearance is characteristic. Cultures for bacteria and fungi should be performed.

*Relation to systemic disease* None usually.

*Differential diagnosis* Clinical appearance is characteristic.

**Therapy** Restoration of normal hygiene. The use of soap and water will remove the pigment.

### Orythidrosis

**Synonym** Pompholyx.

**Sites of predilection** Hands and feet.

**Objective symptoms.** The lesions which are usually located on the palmar and plantar surfaces in the interdigital spaces, and on the dorsal surface of the digits, are numerous, deep-seated, tense-walled, small vesicles. There is usually absence of any gross inflammatory process. Secondary pyogenic infection may develop or the condition may become eccrized. In addition to the deep-seated, small vesicles, tense-walled, deep-seated, small, sterile pustules may develop. Localized areas consisting of numerous small vesicles and pustules may be surrounded by an eroding margin.

**Subjective symptoms.** Moderate to intense itching. If secondary pyogenic infection develops, pain is the predominating subjective symptom.

**Etiology** The condition may be associated with emotional tension, atopic eczema, focal infection, or a combination of these factors.

**Histopathology** There is a subepidermal vesicle surrounded by a chronic inflammatory infiltrate. **Diagnostic aid** Cultures on Sabouraud's medium must be performed to rule out the possibility of a fungal infection. The pustules are usually sterile.

**Relation to systemic disease** The condition may be associated with emotional tension, focal infections, nutritional disturbances, or toxic states.

**Differential diagnosis.** Epidermophytosis, epidermophyid contact dermatitis.

**Therapy** Avoid the use of soap, detergent, and other cleaning agents on the hands. Burrow's solution (diluted 1:32) may be of value in relieving the edema and drying the vesicles. Topical steroid preparations may aid the resolution of the lesions. Creams are frequently of value.

### Hidradenitis Suppurativa

**Synonym** Hidradenoma.

**Sites of predilection** Axillary, genito-crural area, perianal region, and areolae of the breast.

**Objective symptoms** Few to numerous deep-seated abscesses occur in the axillae. These lesions which involve the apocrine sweat glands are discrete or confluent, variably sized, fluctuant nodules containing pus. Deep subcutaneous sinuses develop. The lesions heal with dense scar formation.

**Subjective symptoms** Pain.

**Etiology** The precipitating factor may be an allergic contact dermatitis caused by deodorant with subsequent secondary pyogenic infection. Axillary shaving may also initiate the infection. Varieties of staphylococci are the most common causative factors.

**Histopathology** There is cystic dilatation of the deep part of the glands with destruction of the epithelial lining. There is evidence of an acute inflammatory reaction and subcutaneous abscess formation.

**Diagnostic aids.** Cultures of the pus on blood agar. Disc and tube dilution sensitivity tests for antibiotic selection.

**Relation to systemic disease** None usually.

**Differential diagnosis.** Clinical picture is characteristic.

**Therapy** Incision and drainage of the large fluctuant lesions. Systemic administration of the antibiotic of choice as determined by disc or tube dilution sensitivity tests. Frequent cleansing of the involved area with warm boracic solution, followed by the application of an antibiotic ointment. Roentgen therapy is seldom of value. If there is any disabling deformity remaining after the acute pyogenic infection has subsided, plastic repair may be necessary.

### Hyperhidrosis

**Synonym** Excessive sweating.

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**Objective symptoms.** There is an excessive production of sweat, particularly in times of stress. The condition may appear without apparent cause. On the palms and soles the skin becomes soggy, pale pink in color, and appears waterlogged. The feet may become tender.



## Chapter 21

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*Subjective symptoms* Excessive dryness. These patients cannot tolerate heat.

*Etiology* Unknown. The condition may be associated with a congenital ectodermal defect, ichthyosis, exfoliative dermatitis, extensive psoriasis and other dermatoses.

*Histopathology* The histopathologic picture is not diagnostic.

*Diagnostic aids* Biopsy.

*Relation to systemic disease* None.

*Differential diagnosis* Related to the conditions productive of the anhidrosis.

*Therapy* There is no curative therapy. Use of lubricating preparations such as Lubiderm and mineral oil may be of value in relieving subjective symptoms.

### Bromhidrosis

*Synonym* Stinking sweat. BO.

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*Objective symptoms* This condition is not usually present until after puberty. The patient who has bromhidrosis does not necessarily have excessive perspiration. The odor varies in the same individual from time to time. It may be mildly unpleasant or a strong, penetrating stench.

*Subjective symptoms* The patient is not usually aware of the body stench.

*Etiology* The odor may be caused by bacterial contamination or fermentation of apocrine sweat.

*Histopathology* Nonspecific.

*Diagnostic aids* Clinical symptoms are diagnostic.

*Relation to systemic disease* Many systemic diseases such as uremia, carcinoma and other debilitating illnesses are productive of an unpleasant body odor.

*Differential diagnosis* The odor may be caused by the clothing the patient is wearing, his occupation, etc.

*Therapy* Simple hygiene. The use of deodorant and antiperspirant creams or lotions.

### Chromhidrosis

*Synonym* Colored sweat.

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*Objective symptoms* This is a rare condition characterized by the appearance of colored sweat. In the majority of these cases some affection of the apocrine sweat glands is responsible for the production of this unusual symptom. The discoloration may be brown, red, green or black.

*Subjective symptoms* None.

*Etiology* The condition may be caused by the presence of bacteria on the skin surface, colored substances on the skin or drug ingestion.

*Histopathology* Nonspecific.

*Diagnostic aids* Clinical appearance is characteristic. Cultures for bacteria and fungi should be performed.

*Relation to systemic disease* None usually.

*Differential diagnosis* Clinical appearance is characteristic.

## Chapter 22

# NAIL LESIONS

### Anonychia

- Synonym.* Congenital absence of nails
- Sites of predilection.* Fingernails and toenails.
- Objective symptoms.* There is usually total absence of all nails on the upper and lower extremities. The nail folds are absent and the dorsal war faces of the distal phalanges are thin and red.
- Subjective symptoms.* None usually
- Etiology.* Congenital
- Histopathology.* Absence of nail fold and absence of epynchium.
- Diagnostic aids.* Clinical appearance is characteristic
- Relation to systemic disease.* Other congenital deformities may be present
- Differential diagnosis.* Clinical appearance is characteristic.
- Therapy.* None effective

### Atrophy of the Nail

- Synonym.* Atrophus unguum
- Sites of predilection.* Fingernails and toenails.
- Objective symptoms.* Partial or complete atrophy of the nail plates. The condition most commonly occurs on the fingers, and the plates appear brittle, friable and distorted.
- Subjective symptoms.* None
- Etiology.* Acquired or congenital
- Histopathology.* Non-specific
- Diagnostic aids.* Clinical appearance is characteristic
- Relation to systemic disease.* None has been established
- Differential diagnosis.* Fungus infections
- Therapy.* None effective

### Eczematous Dermatitis of the Nails

- Synonym.* None
- Sites of predilection.* Fingernails and surrounding tissue.
- Objective symptoms.* There is usually an ill-defined, confluent infiltrated or edematous, scaling and exudative eruption involving the nail folds. After the eruption has been present for a month or longer changes appear in the nail plates. The nails are discolored, distorted, friable transversely ridged, and frequently shortened at the free edge.
- Subjective symptoms.* Itching.
- Etiology.* This condition usually develops as a result of sensitization or primary irritation to some contacted substance. Household detergents, nail polish, paint remover, acids or alkalis, or photographic materials may be causative agents.
- Histopathology.* Non-specific.
- Diagnostic aids.* Cultures should be made to rule out fungus infections.
- Relation to systemic disease.* None
- Differential diagnosis.* Onychomycosis, paronychia of the nails.
- Therapy.* In chronic cases the nail defect may be permanent. In acute cases remove the patient from exposure to the irritating substance and apply one of the topical steroid preparations.

### Hang Nail

- Synonym.* Agnail.
- Sites of predilection.* Nail folds of the fingers
- Objective symptoms.* Small tags of skin attached at the proximal end and free at the distal end occur in the lateral, medial, and proximal nail

Localized unilateral hyperhidrosis may involve half the face a small area over one scapula one arm or any discrete or isolated area of the body. This condition exists as a result of some organic neurologic lesion.

**Subjective symptoms** Discomfort caused by excessive sweating.

**Etiology** In generalized cases, or in those involving only the palms and soles, the condition may be caused by emotional tension, drugs, excessive heat or debilitating diseases such as tuberculosis, pneumonia and leukemia.

**Histopathology** Dilatation of the sweat glands in the involved area.

**Diagnostic aids** The clinical appearance is characteristic. The patient should have a thorough physical examination and history. Study for systemic disease.

**Relation to systemic disease** Tuberculosis, leukemia, nutritional disturbances, hyperthyroidism, mental illness.

**Differential diagnosis** None necessary. The clinical appearance is characteristic.

**Therapy** Treatment of the underlying cause. The use of anticholinergic drugs may be of value.

### Millaria Rubra

**Synonym** Itchy heat.

**Sites of predilection** May be generalized. Frequently limited to the folds of the neck, the axillae and the crural regions of infants.

**Objective symptoms** There is an acute onset of a profuse eruption of numerous pin point or slightly larger papules, vesicles or papulovesicles. Occasionally numerous small pustules

are scattered throughout the eruption. One or more of these pustules may develop into furuncles. The eruption is common in infants during hot weather. It may be precipitated in the winter by the wearing of too much clothing. It may appear in the winter months if the child is in an overheated room with poor ventilation. If the condition is neglected or too vigorously treated it may become vesematized, particularly in the skin folds.

**Subjective symptoms** Itching and burning. If furuncles develop the patient has pain.

**Etiology** Contributing factors are excessive heat and humidity, indulgence in use of alcohol, citrus fruits and soft drinks by those people who have a tendency to hyperhidrosis.

**Histopathology** Cystic dilatation of sweat ducts because of occlusion of the orifices, with the presence of an acute inflammatory reaction in the upper cutis about the sweat glands.

**Diagnostic aids** The clinical appearance is characteristic.

**Relation to systemic disease** The condition is common in obesity, alcoholism and in those individuals suffering from debilitating diseases.

**Differential diagnosis** Folliculitis, contact dermatitis, atopic dermatitis.

**Therapy** Avoid exposure to excessive heat and wear light clothing. Infants should be kept in a well ventilated room and wear a minimum of clothing. Cold compresses of Burow's solution (1:32) are of great value. Bland dusting powders used between apposing surfaces also give relief. Light diet. Avoid carbonated beverages, citrus fruits, and alcohol.

**Diagnostic aids.** Clinical appearance is characteristic thorough physical examination and history.

**Relation to systemic disease.** It may be associated with hypothyroidism, pellagra, or psoriasis.

**Differential diagnosis.** Fungus infection proximal of the nails.

**Therapy.** Avoid immersion in soapy water, detergents, or solvents. Avoid overzealous cleansing of the nail. The prognosis is good for the normal regrowth of nail.

### Onychomycosis

**Synonym.** Ringworm of the nails.

**Sites of predilection.** Fingernail and toenails.

**Objective symptoms.** The involved nail plate is dark, thickened, friable, distorted, and usually shortened at the free edge. The nail plate is separated from the nail bed by a dense hyperkeratotic or caseous substance. In some instances almost the entire nail may be destroyed by the disease process. The condition may involve all of the nails on both upper and lower extremities or only one or two nails may be involved. The condition is frequently limited to one or both of the great toenails.

**Subjective symptoms.** Usually none except embarrassment because of the cosmetic defect.

**Etiology.** The dermatophytes *T. rubrum*.

**Histopathology.** By special staining techniques, filaments of the fungus may be seen in the nail bed.

**Diagnostic aid.** Recognition of fungus by use of the potassium hydroxide or the ink-potassium hydroxide wet preparations, culture on Sabouraud's medium to determine the offending organism.

**Relation to systemic disease.** None.

**Differential diagnosis.** Psoriasis of the nails, traumatic onychia.

**Therapy.** Griseofulvin is effective on systemic administration. Surgical removal of nails is not recommended.

### Onychophagia

**Synonym.** Nail biting.

**Sites of predilection.** Fingernails.

**Objective symptoms.** The nail plates are greatly shortened and irregular at the free edge. The degree of deformity varies with different individuals. Some patients bite the nail plate back to the midportion of the nail bed. In such individuals the distal ends of the fingers become bulbous and extend over the position usually occupied by the free edge of the nail.

**Subjective symptoms.** Those usually associated with emotional stress.

**Etiology.** Emotional imbalance.

**Histopathology.** Nonspecific.

**Diagnostic aids.** The clinical appearance is characteristic, thorough history and physical examination.

**Relation to systemic disease.** Associated with tension states.

**Differential diagnosis.** The clinical appearance is characteristic.

**Therapy.** Psychotherapy.

### Onychorrhexis

**Synonym.** Brittleness of the nails.

**Sites of predilection.** Fingernails.

**Objective symptoms.** The nail plates are lustreless and thin. There is frequently sagittal splitting or peeling of the nail plates. Plates are shortened at the free edge.

**Subjective symptoms.** None.

**Etiology.** The condition may be caused by nail polish, polish removers, or self-inflicted trauma.

**Histopathology.** Nonspecific.

**Diagnostic aids.** Clinical appearance is characteristic.

**Relation to systemic disease.** This condition is associated with



FIG. 112 Onychomycosis

folids If these filaments are pulled back they tend to tear into the tissue This may become a site of pyogenic infection

*Subjective symptoms* Itching or pain

*Etiology* The condition may develop as a result of too frequent use of household detergents or solvents Biting of the fingernails is a predisposing factor

*Histopathology* Nonspecific

*Diagnostic aids* The clinical appearance is characteristic

*Relation to systemic disease* None

*Differential diagnosis* Clinical appearance is characteristic

*Therapy* Clip the tips of the skin with sharp scissors Avoid frequent contact with detergents and solvents Discontinue biting the nails Push back cuticles with an orange stick as a prophylactic measure

### Ingrowing Nail

*Synonym* Unguis incarnatus

*Sites of predilection* Toenails most commonly the great toenail

*Objective symptoms* This condition most commonly involves the great toenail The involved nail fold becomes swollen red and exudes serum or pus A pyogenic granuloma frequently appears in the fold and grows across the nail plate The sharp sides of the nail plate cut into the nail grooves opening avenues for entrance of infection Cellulitis and lymphangitis may develop

*Subjective symptoms* Severe pain

*Etiology* Faulty trimming of the nails, tight shoes and secondary pyogenic infection

*Histopathology* Nonspecific

*Diagnostic aids* Clinical picture is characteristic culture of the exudate may be necessary

*Relation to systemic disease* None usually

*Differential diagnosis* Onychomycosis pyogenic granuloma other tumors

*Therapy* Indicate secondary infection by the use of hot boric acid soaks and the application of antibiotic ointments Remove the portion of the nail which is cutting into the tissue Pack the nail fold with cotton so that when the nail regrows it will fill the nail groove Institute proper nail hygiene Wear properly fitting shoes

### Onychogriphosis

*Synonym* Claw nail talon nail

*Sites of predilection* Toenails

*Objective symptoms* This condition which may be acquired or congenital and involve one or more nails is characterized by a hypertrophic overgrowth of the nail plate It may appear as a complication of chronic scaling dermatoses or in association with keratoderma palmare et plantare The nail plates are brittle and fragile In cases of extreme hypertrophy the nail plates may become greatly elongated and claw like Simple hypertrophy of the nail is known as onychauria

*Subjective symptoms* None usually

*Etiology* Acquired or congenital

*Histopathology* Marked thickening of the nail plate

*Diagnostic aids* Culture should be made to rule out fungus infections history and physical examination

*Relation to systemic disease* This condition may develop in obese individuals, arthritic patient and in the aged

*Differential diagnosis* Fungal infection of the nail bed

*Therapy* Mechanical removal of the nail plate by the use of clippers or electric drill Surgical removal may be necessary

### Onycholysis

*Synonym* None

*Sites of predilection* Fingernails

*Objective symptoms* This condition characterized by separation of the nail plate from the nail bed usually begins with the development of a brownish area or brownish spot at the distal edge of the nail The condition is slowly progressive and may extend from the free edge of the nail to the lunula or may involve only a portion of the nail The nail plates are lucent

*Subjective symptoms* None

*Etiology* The separation may be caused by overzealous cleansing behind the nails or constant immersion in household detergent It may be associated with systemic diseases or other dermatoses

*Histopathology* Nonspecific

**Differential diagnosis** Onychomycosis eczema of the nails onychia.

**Therapy** None specific or effectual. See psoriasis in the chapter on Papular Eruptions.

### Pterygium

**Synonym** None

**Sites of predilection.** Fingernails.

**Objective symptoms** There is an abnormal extension of the skin of the proximal nail fold over the lunula at the proximal portion of the nail plate.

**Subjective symptoms.** None

**Etiology** May be caused by poor nail hygiene or excessive x-ray therapy.

**Histopathology** Non-specific

**Diagnostic aids.** The clinical appearance is characteristic.

**Relation to systemic disease** None

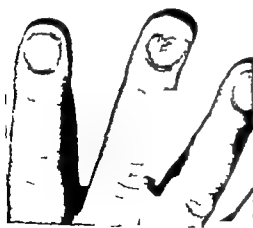
**Differential diagnosis.** The clinical appearance is characteristic.

**Therapy** Removal of the pterygium by cutting or by the use of 5 per cent to 10 per cent salicylic acid in 95 per cent alcohol.

### Spoon Nail

**Synonym** Kodonvrius

**Sites of predilection** Fingernails.



F 113 Spoon nail

**Objective symptoms.** The nail plates are thin. In each nail there is a central concavity and the free edge of the plate is everted.

**Subjective symptoms** None

**Etiology** Congenital or acquired.

**Histopathology** Non-specific.

**Diagnostic aids.** Clinical appearance is characteristic; the patient should be surveyed for systemic disease.

**Relation to systemic disease.** Condition has occurred in association with syphilis, acanthosis nigricans, pernicious anemia, and the Plummer-Vinson syndrome.

**Differential diagnosis.** Clinical appearance is characteristic.

**Therapy** None effective.

### Transverse Furrows or Transverse Bands

**Synonym** Beau's lines.

**Sites of predilection** Fingernails.

**Objective symptoms** Transverse furrows appear on the nail plates, beginning in the proximal portion and progressing distally as the nail grows. Usually all of the nails are involved. These transverse arcuate furrows may be preceded by thin whitish bands.

**Subjective symptoms** None

**Etiology** This condition, caused by a sudden change in the growth zone, is associated with systemic illness.

**Histopathology** A defect in the normal matrix cells of the nails, and a break in the continuity of the nail plate.

**Diagnostic aids.** Clinical appearance is characteristic.

**Relation to systemic disease.** The condition indicates some systemic disease such as scarletina, pneumonia, or other febrile illness.

**Differential diagnosis.** Clinical appearance is characteristic.

**Therapy** Prognosis for the regrowth of the nails to their normal state is good.

occasionally observed in emotional tension hypothyroidism and in protein deficiency diseases.

**Differential diagnosis** Clinical appearance is characteristic

**Therapy** Avoid the use of nail polishes and polish remover. The nails should be kept short and the patient should be encouraged to wear gloves during the course of employment. A file or an emery board should be used to keep the nail plates short. Treat the underlying systemic disease.

### Paronychia Monilial

**Synonym** None

**Sites of predilection** Proximal nail folds and nail plates

**Objective symptoms** There is swelling of the proximal nail fold and the medial and lateral folds. Thick white caseous material may be expressed in acute cases. The nail plates are discolored particularly on the sides and at the proximal portions. There is occasionally some swelling of the nail plate and distortion of the most proximal portion. In chronic cases the entire nail plate is distorted.

**Subjective symptoms** Itching or pain

**Etiology** *Candida albicans*. The condition is common in housewives. Immersion in detergents or alkaline solutions destroys the protective pterygium of the proximal nail fold and allows easy access to bacteria and fungi.

**Histopathology** Nonspecific

**Diagnostic aids** Culture on Sabouraud's medium or mycological agar for fungi.

**Relation to systemic disease** None usually. In some patients there is a history of recent antibiotic therapy.

**Differential diagnosis** Paronychia caused by pyogenic bacteria.

**Therapy** Avoid immersion in soapy solutions, detergent solutions, solvents or other irritating substances. Application to the involved areas of Myconex or Mycolog ointment or lotion.

### Paronychia Purulent

**Synonym** None

**Sites of predilection** Interungual tissues of the fingers or toes.

**Objective symptoms** The condition has an acute onset. The skin of the nail fold is edematous and erythematous. Pustules or vesicles may appear over the surface. The areas are tender and, on slight pressure, pus may be expressed from the nail fold. This condition causes temporary or permanent distortion of the nail plate. One or more fingers or toes may be involved.

**Subjective symptoms** Pain.

**Etiology** Introduction of pyogenic bacteria into the nail folds by trauma. Forceful removal of a hangnail may precipitate the condition.

**Histopathology** Nonspecific.

**Diagnostic aids** Culture of the pyogenic bacteria on blood agar. In resistant cases disc or tube dilution sensitivity tests should be done for antibiotic selection.

**Relation to systemic disease** None.

**Differential diagnosis** Monilial paronychia or other fungus infections.

**Therapy** Hot applications of boric acid solution followed by the application of an antibiotic ointment. Incision and drainage may be necessary. Systemic antibiotic administration is necessary for resistant cases.

### Psoriasis of the Nail

**Synonym** None

**Sites of predilection** Nails and other areas. See psoriasis in the chapter on Papular Eruptions.

**Objective symptoms** Only one or two nails may be affected or all nails may be involved. The presenting symptoms may be limited to the formation of pits scattered over one or more of the nail plates or the nail or nails may be pitted, friable, shortened, ridged and discolored. In some instances the nail plates are thickened and elevated from the nail bed by thickly packed whitish hyperkeratotic material.

**Subjective symptoms** None except the embarrassment produced by the cosmetic defect.

**Etiology** Unknown.

**Histopathology** See psoriasis in the chapter on Papular Eruptions.

**Diagnostic aids** Biopsy, history and physical examination, culture to rule out fungus infection.

**Relation to systemic disease** May appear in conjunction with psoriatic arthropathy.

**Differential diagnosis.** Other eczematous conditions

**Therapy.** Preventive. Avoid the use of the dhobie mark. Treat the involved area with 1 per cent hydrocortisone ointment or lotion.

### Dengue

**Synonym.** Break-bone fever

This mosquito-borne disease is characterized by a severe febrile course, retrobulbar pain, and intense pain in bones and joints. Several days after the onset the patient develops an ill-defined pinkish, macular eruption over the trunk. Purpura and petechiae occur over the distal portions of the extremities. Axillary lymphadenopathy is a frequent finding. The condition is self-limited. Complications are rare.

### Diphtheria

The *Corynebacterium diphtheriae* is a frequent secondary invader in eczemas, epidermophytosis and tropical ulcers. In all cases of long-standing lesions which are resistant to therapeutic measures and show no tendency to heal, smears and cultures should be made to determine the presence of this organism. Neuritis, cardiac involvement, and other toxic manifestations develop as a result of uterine diphtheria.

### Diphyllabothriasis

**Synonym.** Tape worm.

Occasionally the parasite invades the skin and produces pseudotumors on the lower extremities. Elephantiasis may develop with a pruritic acne form eruption on the overlying skin.

### Dracunculiasis

**Synonym.** Guinea worm infestation.

Countries: India, northern Africa, northern Egypt. Site of predilection: Legs.

**Object symptoms.** A small rounded nodule appears on foot near the ankle. Extending upward from this is a tortuous, cord-like mass (characteristically small ulcer form at the site of the worm head at the time the embryos are released). Itchiness and edema may accompany attack.

**Subject symptoms.** Itching and pain.

**Etiology.** *Dracunculus medinensis* (a worm).

**Therapy.** Inject tumor with 1:1000 bichloride of mercury and extract the worm. Natives extract the worm by rolling it on a stick and removing a few inches each day. These worms may be several feet in length.

### Filarial

**Synonym.** Elephantiasis, pachydermia.

**Sites of predilection.** Legs, scrotum, breasts and breasts.

**Objective symptoms.** Onset may be marked with fever and severe systemic symptoms. The affected part becomes edematous and inflamed and may drain a milky fluid. This symptom complex recurs frequently and increases in severity with each attack until the affected part is permanently enlarged. The overlying skin becomes markedly thickened, thrown into folds, and verrucoid in appearance.

**Subjective symptoms.** Severe pain with attack accompanied by fever and systemic symptoms.

**Etiology.** *Wuchereria bancrofti*.

**Host pathology.** Edema, fibrosis, and lymph stasis. The epidermis is acanthotic and verrucoid.



FIG 114 Filarial: A Funiculitis and adenopathy B Perforal lesion C Beginning elephantiasis D Elephantiasis



## Chapter 23

# TROPICAL DISEASES

### TROPICAL DERMATOSES

In tropical or subtropical regions many common dermatoses are modified by conditions of climate to assume bizarre forms and more extensive involvement. These eruptions include fungus infections, nonepithelial eruptions, eczematous conditions and the pyodermas. Conditions indigenous to the tropical zones include tinea imbricata, yaws, pinta, filariasis, mycetoma, tropical ulcer, anihum and leishmaniasis.

#### Anihum

*Synonym:* Spontaneous loss of little toe

*Countries:* Africa and India

*Sites of predilection:* Fifth metatarsophalangeal joint

*Objective symptoms:* Begins as an area of marked hyperkeratosis on the plantar surface of the fifth metatarsophalangeal joint across which runs a transverse groove or fissure. This groove deepens and extends until it surrounds the toe. The lesion may swell, ulcerate and discharge. Eventually the constricting band causes spontaneous amputation of the digit. This disease occurs only in Negroes.

*Subjective symptoms:* Severe pain on motion

*Etiology:* Unknown

*Histopathology:* Nonspecific

*Diagnostic aids:* Clinical appearance

*Relation to systemic disease:* None

*Differential diagnosis:* Raynaud's disease, Buerger's disease

*Therapy:* Surgical amputation

#### Alastrim

*Synonym:* Kaffir smallpox

This is a relatively rare condition in which the

symptoms are similar to mild variola or severe varicella. The prognosis is good.

#### Amoebiasis Cutis

Relatively rare. Ragged ulcers occur in the perianal area extending on to the rectal mucosa. Occasionally following operation on an infected bowel the patient may develop ragged ulcers at the site of the wound in the abdominal wall. The organism may be recovered from the margins of the ulcer. This condition responds readily to injections of emetine hydrochloride.

Urticaria frequently accompanies an attack of intestinal amoebiasis.

#### Dhobie Mark Dermatitis

*Synonym:* Dhobie itch, washerman's mark dermatitis.

*Countries:* India

*Site of predilection:* Areas exposed to dhobie mark, such as the back of the neck, the wrist and the heels.

*Objective symptoms:* The first symptoms are well defined localized areas of erythema which develop a few hours after exposure. These rapidly become edematous and within a few hours are covered with numerous small discrete and confluent closely aggregated tense vesicles. The original lesions spread to involve larger area in the same vicinity. Secondary pyogenic infection may occur.

*Subjective symptoms:* Intense itching.

*Etiology:* Juice of the lehm nut used for laundry marks.

*Histopathology:* That of contact dermatitis.

*Diagnostic aids:* Patch tests.

*Relation to systemic disease:* None.

**Differential diagnosis.** Pediculosis fungus infection.

**Therapy.** Shave the villae and cleanse the skin with mild antiseptics.

### Leprosy

**Synonym.** Leprosy, elephantiasis graecorum, leontium.

**Countries.** Asia, Africa, Pacific Islands, Japan, Great Britain, and sporadic cases in the United States.

**Sites of predilection.** See the description of leprosy in the chapters on Macular and Papular Eruptions.

### Loiasis

**Synonym.** Calabar swelling, loa loa.

**Countries.** Africa.

**Sites of predilection.** Face, trunk, and extremities.

**Objective symptoms.** Large painless swellings resembling giant hives. Urticaria and eosinophilia are present.

**Subjective symptoms.** Itching and malaise.

**Etiology.** Loa loa.

**Therapy.** Surgical removal of the worm; parenteral use of antimony compounds.

### Mycetoma

**Synonym.** Madura foot, podofoma, money foot, fungus foot of India.

**Countries.** India, North Africa, Brazil, and the southern part of the United States.

**Sites of predilection.** See the discussion of mycetoma in chapter on Mycology.

### Onchocerciasis

**Synonym.** River blindness.

**Countries.** Central America, Africa.

**Sites of predilection.** Trunk, extremities, and face.

**Objective symptoms.** The eruption begins with the formation of follicular papules topped with hyperkeratotic plugs, usually on the extremities and trunk but not on the face and scalp. Pustules and ulcerating plaques heal with scar formation. Urticaria and systemic symptoms. A scar or tumor-like lesion may develop on the head. If these lesions develop on the eye, permanent blindness occurs.

**Subjective symptoms.** Fever, malaise, gastric upsets, and itching. Pain, with tumor lesions.

**Etiology.** *Onchocerca colvina*.

**Therapy.** Preventive by destroying flies, etc. Excise tumors as they appear.

### Paracoccidiodial Granuloma

**Synonym.** South American blastomycosis, Almeida disease.

**Countries.** Northern part of South America, Central America.

**Sites of predilection.** Buccal mucosa, pharynx, skin.

**Objective symptoms.** Lesions may begin on the tongue, tonsils or buccal mucosa as papillary vegetations similar to condylomata acuminata. These lesions spread to the lips, nose, and the surrounding skin. The fungus may enter through an abrasion on the skin and a primary lesion will develop at the site of inoculation, becoming a precursor to generalized cutaneous involvement. The cutaneous lesions also resemble condylomata acuminata and are granulomatous. Pus which accumulates between the verrucose produces crusting. No constitutional symptoms are produced until later. The disease usually has a fatal termination.

**Subjective symptoms.** Discomfort caused by obstruction of the nasopharynx. Late in the course of the disease the general systemic symptoms are pronounced.

**Etiology.** *Paracoccidioides brasiliensis*.

**Diagnostic aids.** Biopsy and culture on Sabouraud's medium and blood agar.

**Relation to systemic disease.** Paracoccidiodial granuloma is a systemic disease.

**Differential diagnosis.** Other deep fungus infections, other granulomas.

**Therapy.** Amphoteracin B, stilbamidine, 2-hydroxy stilbamidine.

### Pinta

**Synonym.** Carate mal de pinta, spotted disease.

**Countries.** Mexico, Central America.

**Sites of predilection.** Entire body, more marked on head and extremities.

**Objective symptoms.** The onset is marked by mild fever which lasts for a few days and is followed by an eruption of variously sized macules.

**Diagnostic aids** Demonstration of the filaria in blood smears biopsy

**Relation to systemic disease** Filariasis is a systemic disease

**Differential diagnosis** Other conditions which cause lymphatic obstruction

**Therapy** Remove the patient from the tropics if possible pressure bandage the involved areas avoid surgery on the extremities. A plastic operation is the only satisfactory means of treatment for breast and scrotal lesions

### Jungle Rot

This term was coined in the South Pacific by the American soldiers in the fall of 1942 and has been used to designate a variety of conditions. It was most frequently applied to severe epidermophytosis, various manifestations of eczema contact dermatitis, atabrine dermatitis and widespread eruptions caused by overzealous therapy. This is not a specific term.

### Leishmaniasis

**Synonym** Espundia uta leishmaniasis of the Brazilian forests.

**Countries** Mexico South America

**Sites of predilection** Exposed parts of the body cartilage and bones of the nasopharynx

**Objective symptoms** A primary stage and a late stage form the two distinct phases of the disease. The primary stage occurs after an incubation period of 1 to 3 months and is marked by the appearance on the lips, face, neck, palms, soles, penis, female genitalia, or scalp of a crusted ulcer (*espundic chancre*) which heals after a period of months or years with a characteristic star-shaped scar. The late stage occurs after a period of from 1 to 20 years with the formation of granulomatous ulcers and destruction of bone and cartilage in the nasopharynx. The tongue is almost invariably spared. Verrucous enlargements of the nose and face may occur. Marked lymphangitis is present in both the early and late phases.

**Subjective symptoms** Vary from slight itching to intense pain depending on the type of involvement.

**Etiology** *Leishmania brasiliensis*

**Diagnostic aids** Biopsy

**Relation to systemic disease** Leishmaniasis is a systemic disease.

**Differential diagnosis** Other granulomas.

**Therapy** Intravenous injections of tartar emetic intramuscular injections of Fluidin or neostibosan.

### Leishmaniasis Tropical

**Synonym** Oriental sore, oriental boil, Baskra button, Aleppo boil, desert sore, Delhi boil.

**Countries** India

**Sites of predilection** Face, face, legs and arms.

**Objective symptoms** After an incubation period of 1 to 5 years a small papule develops on the infected site. This gradually enlarges, softens in the center and breaks down to form an ulcer 1 to several cm in diameter. The disease is self limited and even without therapy will involute with scar formation and no sequelae.

**Subjective symptoms** Usually absent.

**Etiology** *Leishmania tropica* carried by insect vectors.

**Diagnostic aids** Demonstration of organism.

**Therapy** Parenteral use of antimony preparations.

Local use of iodine or mercuric chloride.

### Lepthrix

**Synonym** Trichomycosis nodosa, trichomycosis axillaris, flava, nigra and rubra.

**Sites of predilection** Axillary hair.

**Objective symptoms** Numerous firm yellowish brownish or blackish concretions surrounding the hair shafts. These concretions which are actually clumps and clumps of microorganisms, are bound to the hair shafts by a cement like substance. Occasionally the hairs are fractured. The surrounding skin may be pinkish in color because of an inflammatory process.

**Subjective symptoms** Usually none. May have slight itching.

**Etiology** Variety of microorganisms.

**Histopathology** The concretions on the hair shafts are formed of masses of microorganisms in a homogeneous substance resembling chitin.

**Diagnostic aids** Microscopic examination of the involved hair.

**Relation to systemic disease** None.

form ulcers, which spread peripherally to involve large areas, sometimes encircling the leg. The ulcers have precipitous margins and dirty greenish-gray bases.

**Subjective symptoms.** Pain at the site of the lesion.

**Etiology.** Filth. Varieties of microorganisms have been found including a species of spirochete similar to *Spirocheta vincenti*. Staphylococci and streptococci have also been found.

**Histopathology.** Nonspecific.

**Diagnostic aids.** Clinical appearance of the lesion, history and physical examination, cultures of the lesion on blood agar.

**Relation to systemic disease.** None.

**Differential diagnosis.** Gummas, tuberculous, other granulomata.

**Therapy.** Hygiene. Antibiotic ointments may be of value. Ambulatory treatment is not practical. It may be necessary to utilize plastic repair with a skin graft.

### Tsutsugamushi Fever

**Synonym.** Japanese river fever.

This disease is characterized by the appearance of a necrotic ulcer at the site of inoculation and the development of a petechial eruption involving the palms, soles, face, trunk, and forearms. It is caused by a rickettsia and has a high mortality rate.

### Uncinariasis

**Synonym.** Hookworm.

Frequently the early symptoms are ignored or misdiagnosed as epidermophytosis. At the site of inoculation of the parasite one may find a vesicular eruption on the soles which resembles fungus infection.

### Yaws

**Synonym.** Frumbe-a pian, treponematosis.

**Countries.** Central and South Pacific Islands, North Africa, West Indies, Asia. Occurs only in natives.

**Site of predilection.** In the early stages only the skin is involved. Later destructive lesions appear in the bone and soft tissue.



FIG. 116 A and B, Primary lesions; C and D, Secondary yaws.

**Objective symptoms.** The primary lesion or "mother yaw" usually occurs on the feet or legs and begins as a papule or small nodule which breaks down to form a granulomatous mass, usually topped with a serosanguinous crust. The margins of this lesion are folded back like petals. In one to four weeks, secondary lesions develop and vary in appearance from dull reddish papules to large pustules and crusted ulcers. The crusts covering the ulcers have a piled up appearance ("oyster shell crust").

which may be white red yellowish brownish or violaceous. The lesions are sharply defined and may be covered with a furfuraceous or lamellated scale. When the lesions undergo involution permanent depigmentation remains. *Subjective symptoms.* Onset of the eruption may be marked with mild malaise and slight itching.

*Etiology* *Treponema caraleum*

*Diagnostic aids* Demonstration of the *Treponema* by dark field examination. The lesions must first be scarified in order to obtain the serum. Blood serologic tests.

*Relation to systemic disease* Pinta is a systemic disease.

*Differential diagnosis* Vitiligo fungus infections. *Therapy* The treatment is the same as the treatment for syphilis. Penicillin is the drug of choice.

### Strongyloidosis

This disease is caused by the *Strongyloides stercoralis* and primarily involves the intestinal tract. At the time of invasion it produces severe pruritus and localized urticaria.

### Tinea Imbricata

*Synonym* Tokelau ringworm. Burmese ringworm. *Countries* Fiji Islands; Solomon Islands; India. Occurs only in the natives.

*Sites of predilection* Trunk and extremities.

*Objective symptoms* Begins as a pinkish or reddish macule eventually covered with an adherent whitish scale which peels toward the margin of the lesion. Scaling continues to form in the central portion and as the lesion spreads peripherally concentric and polycyclic figures are formed. Annular lesions occur. The disease is persistent.

*Subjective symptoms* Varying degrees of itching.

*Etiology* *Endodermophyton concentricum*

*Histopathology* The fungi may be seen in the stratum corneum by use of the Hotchkiss McManus stain.

*Diagnostic aids* Microscopic examination of scales with potassium hydroxide or the ink potassium hydroxide stain.



FIG. 115. *Tinea imbricata*

*Relation to systemic disease* None.

*Differential diagnosis* Other fungus infections: pityriasis rosea; seborrheic dermatitis.

*Therapy* None permanently effective. Five per cent salicylic acid ointment 1 of some value in removing the scale.

### Tropical Ulcer

*Synonym* Tropical phagedenic ulcer. Aden ulcer. Malabar ulcer. Naga sore. Desert sore.

*Countries* Common in all tropical countries.

*Sites of predilection* Legs usually the lower third.

*Objective symptoms* The lesions begin as small papules or vesicles. These undergo necrosis to

## Chapter 24

# PERIPHERAL VASCULAR DISEASES

### Peripheral Vascular Disease

Diseases of the peripheral blood vessels may be classified as follows

#### I Intrinsic diseases of the peripheral blood vessels

##### A. Congenital anomalies

- 1 Arteriovenous aneurysm

##### B. Neri

- 1 Port wine stain (nevus flammeus)
- Hemangiomas
  - a. Superficial (strawberry mark, hemangioma simplex)
  - b. Deep
    - i. Nevus araneus (spider nevus)

##### C. Tumors

- 1 Glomus tumor
- 2 Anglioma
- 3 Angioid hemangioma
- 4 Senile angioma and angiokeratoma
- 5 Adenoma sebaceum
- 6 Multiple idiopathic hemorrhagic angiomata (Kaposi)

##### D. Traumatic

- 1 Arteriovenous aneurysm
- Erythema ab igne
- 3 Frostbite
- 4 Varicose veins, and other isolated varices
- 5 Cutaneous marmorata
- 6 Radiodermatitis

#### II Inflammatory and obstructive lesions of the peripheral vessel associated with systemic disease

##### A. Capillaries

- 1 Idiopathic telangiectasia
- 2 Hereditary telangiectasia

##### 3 Hemorrhages

- a. Purpura annularis telangiectodes
- b. Schamberg's disease
- c. Pigmented purpuric lichenoid dermatitis

##### 4 Necrobiosis lipoidica diabetorum

##### III Veins

##### 1 Varicose veins

- 2 External thrombotic hemorrhoids
- 3 Thrombophlebitis and phlebotrombosis

##### C. Arteries

- 1 Arteriosclerosis
- 2 Periarthritis nodosa
- 3 Buerger's disease (thromboangiitis obliterans)
- 4 Diabetes mellitus (arterio-sclerosis)
- 5 Erythromelalgia
- 6 Syphilis

#### III Functional disturbances of the peripheral vessels, associated with systemic disease.

##### A. Icthyomatous responses

- 1 Angioneurotic edema
- 2 Flush or blush
- 3 Red sweaty palms
- 4 Acrocyanosis

##### II Organic lesions ("collagen vascular" disease)

- 1 Raynaud's disease
- 2 Scleroderma
- 3 Dermatomyositis
- 4 Lupus erythematosus
- 5 Periarthritis nodosa

The objective symptoms of many peripheral vascular diseases are primarily cutaneous. These will be described in detail, here or elsewhere in the text.

- Tertiary or late yaws appears in from 1 to 3 years, forming destructive gummatous lesions in bone or skin.
- Subjective symptoms* Variable degrees of itching and occasionally transient fever with early yaws. Pain with late yaws lesions.
- Etiology* *Treponema pertenue*
- Histopathology* Histopathologic picture is similar to that observed in syphilis.
- Diagnostic aids.* Demonstration of the *Treponema pertenue* by dark field examination from early lesions. Blood serologic tests.
- Relation to systemic disease* Yaws is a systemic disease.
- Differential diagnosis* Syphilis tuberculosis deep fungus infections other granulomas.
- Therapy* The same as the therapy for syphilis. Penicillin is the drug of choice.

## Chapter 24

# PERIPHERAL VASCULAR DISEASES

### Peripheral Vascular Disease

Diseases of the peripheral blood vessels may be classified as follows

#### I. Intrinsic diseases of the peripheral blood vessels

##### A. Congenital anomalies

1. Arteriovenous aneurysm

##### B. Nevus

1. Port wine stain (nevus flammeus)

##### 2. Hemangiomas

- a. Superficial (strawberry mark, hemangioma simplex)
- b. Deep  
Nevus araneus (spider nevus)

##### C. Tumors

1. Glomus tumor
2. Angiosarcoma
3. Angioendothelioma
4. Senile angiomas and angiolipomas
5. Adenoma sebaceum
6. Multiple idiopathic hemorrhagic sarcoma (kaposi)

##### D. Traumatic

1. Arteriovenous aneurysm  
Erythema ab igno
3. Frostbite
4. Vars of the lips and their related ulcers
- a. Cutis marmorata
6. Psoriasis

#### II. Inflammatory and obstructive lesions of the peripheral vessels, associated with systemic disease

##### A. Capillaries

1. Idiopathic telangiectasia
2. Hereditary telangiectasia

##### 3. Hemoideroses

- a. Purpura annularis telangiectodes
- b. Schamberg's disease
- c. Pigmented purpuric lichenoid dermatitis

##### 4. Necrobiosis lipoidica diabetorum

##### B. Veins

1. Varicose veins
2. External thrombotic hemorrhoids
3. Thrombophlebitis and phlebotrombosis

##### C. Arteries

1. Arteriosclerosis
2. Periarthritis nodosa
3. Buerger's disease (thromboangitis obliterans)
4. Diabetes mellitus (arteriosclerosis)
5. Erythromelalgia
6. Syphilis

#### III. Functional disturbances of the peripheral vessels associated with systemic disease

##### A. 1. Idiosyncratic responses

1. Angioneurotic edema
2. Flush or blush
3. Red, sweaty palms
4. Acrocyanosis

##### B. Organic lesions ("collagen vascular" disease)

1. Raynaud's disease
2. Scleroderma
3. Dermatomyositis
4. Lupus erythematosus
5. Periarthritis nodosa

The objective symptoms of many peripheral vascular diseases are primarily cutaneous. These will be described in detail here or elsewhere in the text.



**Adenoma Sebaceum**

This has been described in the chapter on Papular Eruptions.

**Angiokeratoma**

This has been described in the chapter on Papular Eruptions

**Angioneurotic Edema**

This condition is described in the chapter on Papular Eruptions

**Arteriosclerosis**

*Synonym:* Hardening of the arteries.

*Sites of predilection:* Cutaneous symptoms are usually noted on the distal portions of the lower extremities.

*Objective symptoms:* Occlusion or extreme narrowing of the lumen of an artery may result in anoxia of the distal portion of the extremity causing dry atrophy of the digits, which become black and undergo spontaneous amputation.

*Subjective symptoms:* Moderate to severe pain in the affected extremity. Intermittent claudication is a frequent symptom.

*Etiology:* Calcification of the wall of the artery with resultant narrowing of the lumen.

*Histopathology:* Loss of elastic tissue and calcification of artery wall.

*Relation to systemic disease:* Other evidences of arteriosclerosis include cerebral and cardiac symptoms.

*Diagnostic aids:* History and physical examination. *Differential diagnosis:* Raynaud's disease. Buerger's disease.

*Therapy:* None effective.

**Cutis Marmorata**

This condition is described in the chapter on Macular Eruptions.

**Dermatomyositis**

This condition is described in the chapter on Macular Eruptions.

**Erythema ab Igne**

This has been described in the chapter on Macular Eruptions.

**Frostbite**

*Synonyms:* Dermatitis congelationis trench foot immersion foot

*Sites of predilection:* Nose ears, cheeks, fingers, and toes.

*Objective symptoms:* The symptoms vary from a mild transitory erythema to a deep-seated inflammatory process which involves nerves and blood vessels and frequently results in gangrene.

The milder degrees of frostbite are evidenced by erythema and edema and occasionally vesiculation. In the more severe forms, gangrene may occur without vesicle formation. Pulses may be absent. Bones may be involved. The condition tends to recur on re-exposure to cold.

*Subjective symptoms:* Vary from mild paresthesias to severe pain.

*Etiology:* Usually associated with prolonged exposure to below freezing temperatures. Symptoms may follow immersion in cold water wearing wet shoes or socks, or standing on cold ground for long periods (as soldiers in combat).

*Histopathology:* Occlusion of superficial blood vessels with resultant cutaneous changes.

*Diagnostic aids:* History and physical examination.

*Relation to systemic disease:* None usually.

*Differential diagnosis:* Raynaud's disease.

*Therapy:* Iodophylaxis is the best treatment. Clean dry socks and shoes should be worn and changed frequently.

If gangrenous changes are present the patient should be made ambulatory in spite of the severe pain. This may help to avoid surgical intervention.

Mild frostbite is treated by gentle friction and gradual elevation of the temperature.

**Glomus Tumor**

This has been described in the chapter on Papular Eruptions.

**Hemangioma**

This condition has been described in the chapter on Papular Eruptions.

**Hereditary Hemorrhagic Telangiectasia**

*Synonym.* Rendu-Osler Weber syndrome.

*Sites of predilection.* Face tongue buccal surfaces nasal septum viscera

*Objective symptoms.* Multiple telangiectases and angiomas occur on the sites of predilection. Visceral telangiectases rupture and cause hemorrhages of serious proportion which may be fatal.

*Subjective symptoms.* Discomfort associated with hemorrhage plus the psychic trauma associated with the cosmetic defect.

*Etiology.* Familial in origin.

*Histopathology.* Not characteristic.

*Diagnostic aids.* History and physical examination hemograms

*Relation to systemic disease.* The disease is systemic.

*Differential diagnosis.* Multiple benign telangiectases senile angioma purpura.

*Therapy.* None effective. Transfusions may be necessary.

**Lupus Erythematosus**

This is described in the chapter on Macular Eruptions.

**Nevus Araneus**

*Synonym.* Spider nevus

This is described in the chapter on Macular Eruptions.

**Nevus Flammeus**

*Synonym.* Port wine stain

This disease has been described in the chapter on Macular Eruptions.

**Periarteritis Nodosa**

This condition is described in the chapter on Papular Eruptions.

**Purpuric Pigmented Eruptions of the Lower Extremities**

*Synonym.* Purpura annularis telangiectodes Schamberg disease pigmented purpura lichenoid dermatitis. These are probably variants of the same condition.

These conditions have been described in the chapter on Macular Eruptions.

**Raynaud's Disease**

This condition is described in the chapter on Macular Eruptions.

**Scleroderma**

This condition is described in the chapter on Macular Eruptions.

**Telangiectasia**

*Synonym.* None

*Sites of predilection.* Face trunk, and other areas

*Objective symptoms.* Tortuous dilated small blood vessels develop on the nose and contiguous portions of the cheeks. Other areas of the body may be affected. The condition is not inflammatory.

*Subjective symptoms.* Depend on the severity of the condition and the underlying disease.

*Etiology.* The variety of causes includes x-ray damage actinism rays alcoholism drug reactions, liver disease blood dyscrasias, etc. Telangiectasia may be associated with rosacea or may occur following prolonged, repeated exposure to sun wind, or excessive heat.

*Histopathology.* Dilated vessel usually little or no inflammation is present.

*Diagnostic aids.* History and physical examination hemogram and other appropriate laboratory studies.

*Relation to systemic disease.* Cirrhosis of the liver rosacea allergic reactions, and malignancies are among those conditions which produce telangiectasia.

*Differential diagnosis.* None usually necessary.

*Therapy.* If the cosmetic defect is annoying, the vessels may be treated with electrolysis (cautery by the galvanic or high frequency current). Treat the underlying disease.

**Thromboangiitis Obliterans**

*Synonym.* Buerger's disease.

*Sites of predilection.* Extremities.

*Objective symptoms.* This condition may be unilateral or bilateral. Scattered areas of obliterative endovascularitis of arteries and veins cause symptoms which include gangrene of toes, ulcers and other dystrophies. Arterial pulsations may be absent.



FIG. 117 Buerger's disease

*Subjective symptoms* None to severe pain

*Etiology* Buerger's disease has been associated with the use of tobacco in any form. The condition occurs most frequently in men.

*Histopathology* Vasculitis with thrombus formation at intervals along the course of arteries and veins.

*Diagnostic aids* Biopsy, history and physical examination.

*Relation to systemic disease* This is a disease of peripheral blood vessels.

*Differential diagnosis* Thrombophlebitis, Raynaud's disease, arteriosclerosis.

*Therapy* Of little value. Avoid use of tobacco. Amputation of part or all of the affected extremity may be necessary.

#### Varicose Vein

*Synonym* None

*Sites of predilection* Lower extremities, scrotum, occasionally trunk.

*Objective symptoms* Dilated tortuous superficial, and deep veins occasionally forming large

cutaneous masses. Palpable thrombus formation may occur. Inflammatory reaction in the vein walls may predispose to clot formation (phlebotrombosis). If these thrombi become infected intense pain may result (thrombophlebitis). Ulceration may occur caused by slight trauma or spontaneous rupture of a dilated vein.

*Subjective symptoms* None to intense pain in the extremities.

*Etiology* Weakening of the valves in the veins.

*Histopathology* Dilated vessels. If inflammatory reaction is present there may be an infiltration of pus cells or thrombus formation.

*Diagnostic aids* History and physical examination.

*Relation to systemic disease* None usually, although an abdominal mass productive of increased venous pressure predisposes to varicosities.

*Differential diagnosis* The condition is characteristic.

*Therapy* Multiple ligation and excision of affected veins.

#### Varix of the Lip

*Synonym* None

*Sites of predilection* Usually the lower lip.

*Objective symptoms* The lesions are small purplish soft masses measuring 1 to 3 mm in diameter. They are easily compressed free of blood unless an organized thrombus is present.

*Subjective symptoms* The cosmetic defect causes some concern.

*Etiology* May be caused by trauma.

*Histopathology* Dilated vein containing a clot.

*Diagnostic aids* Biopsy, history and physical examination.

*Relation to systemic disease* None.

*Differential diagnosis* Hemangioma, nevus.

*Therapy* Obliteration of lesion by electrocoagulation.

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